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PAUL B. HOEBER, 69 East 59th St., N. Y.

DIET AND HYGIENE

IN

Diseases of the Skin

BY

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TO

THE MANY PHYSICIANS

WHO HAVE HONORED ME BY THEIR FAITHFUL
ATTENDANCE AT AND INTEREST IN MY
CLINICAL LECTURES ON

DISEASES OF THE SKIN

FOR NEARLY FORTY YEARS THIS THIRD
VOLUME IS RESPECTFULLY
DEDICATED

PREFACE

As in the case of my former series of lectures "On the Relations of Diseases of the Skin to Internal Disorders," and on the "Principles and Application of Local Treatment in Diseases of the Skin," these lectures are largely of a personal character, reflecting the experience of the writer, for the benefit primarily of those who have attended the Clinical Lectures at the New York Skin and Cancer Hospital. While recognizing the immense importance of diet and hygiene in connection with very many diseases of the skin, it is quite impossible during the brief hour of a clinical lecture to inquire into or to give careful directions concerning these matters to the patient, which would also be for the benefit of those attending the lectures: hence the subjects were treated of specially in six lectures at the end of the course.

In preparing these lectures the attempt was made not only to crystallize my own personal views and experiences along the lines of diet and hygiene in diseases of the skin, as observed mainly in private practice, but also to add scientific support from the vast and ever increasing literature dealing with the chemistry of foods and nutrition. It was quite impossible, however, to attempt

to enter the journalistic literature, and one had to be content to utilize standard works and monographs, which are mentioned in the Bibliography.

With all that has been written in regard to the relation of food to nutrition, we must confess that we are yet very far from understanding some of even the simplest propositions concerning metabolism; and the scientific basis of our knowledge and action must be more or less uncertain until our knowledge of physiological chemistry is more perfect.

But the science of medicine is built up slowly by both clinical observations and laboratory studies, and in these lectures I have endeavored to make at least some small clinical contribution of matters which I have verified so continually for years in private practice, that I have no hesitancy in advocating the measures suggested. How much farther it will be possible to determine the dietetic relations of the diseases mentioned, or others, depends upon the careful observation and assiduous note-taking of the many now engaged in the practice of dermatology; for these questions will never be settled by the laboratory alone. The sooner and the more thoroughly the thought and attention, and work of those engaged in this branch of medicine is turned from purely local pathology and treatment, to the consideration of the deeper and fundamental elements of tissue disturbance from internal causes, the better it will be for science and for the practical relief of sufferers from many diseases

of the skin. Every intelligent layman recognizes that what is eaten and drunk must have much to do with the character and integrity of the tissues of which it goes to form a part, and the profession should be more alive to study and observe the internal relations of many maladies which appear upon the skin. The intimate analytical study of the urine from time to time, by volumetric methods, often throws the strongest light upon the anabolism and catabolism of the system, which are in turn affected so greatly by the diet.

In the Appendix I have endeavored to be even more practical and definite, and have outlined a dietary with the exclusion of animal food, which often seems so very desirable in certain diseases of the skin. When such a diet is proposed very many object strongly, and cannot realize the great abundance and variety of the products of the ground, which can perfectly supply all the needs of the system; in the menus presented I have endeavored to include a very great diversity of cereals and other vegetarian products from which a choice can be made.

In presenting this little book to the profession I recognize only too well that it comes far from what could be wished. But as a pioneer work in this much neglected branch of dermatological therapeutics I bespeak for it a kindly criticism. There is very little definite in regard to the subjects to be found in the standard works on diseases of the skin, and as far as I know, rel-

atively little in current literature, consequently there is little reference to the work of others in this line.

Of the matters concerning which I speak positively I am so fully convinced from observation in innumerable cases that I can only add that I trust that many others will put them to the test. In regard to the basic idea of this book, that metabolism, as influenced by diet and hygiene, can have the greatest effect upon the structure and diseases of the tissues of the body, including the skin, there can be no doubt. The hope is that this work may be the means of directing many others to study and record the effects of diet and hygiene in this class of diseases, and that the matter here contained may be the means of aiding many in overcoming certain diseases of the skin which are often so very obstinate.

531 Madison Ave.

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LECTURE I

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DIET AND HYGIENE IN DISEASES OF THE SKIN

LECTURE I

The rebelliousness and recurrence of many cutaneous affections indicate some underlying cause.—Even tubercle bacilli and pus organisms require a proper soil.—Faulty metabolism and auto-intoxication often found with skin lesions.—Dependence of these upon diet.—Errors of diet and mode of their operation upon the skin.—Overeating and wrong eating.—Gratifying the taste after the appetite is satisfied.—Definition of diet.—Elements affecting digestion: mental and nervous influence.—Mastication, insalivation, Fletcherism.

GENTLEMEN:—

Diseases of the skin as a class are notoriously rebellious, and some cases tax the skill and patience even of the specialist to an annoying degree. We are yet far from understanding many of them as well as we would like, and in some instances they seem almost incurable.

But there is a cause for everything in this world, and human skill and discernment are gradually probing nature, so that the science and art of medicine has progressed incomparably of late years, along the lines of

both etiology and treatment. There is still, however, much regarding many diseases of the skin yet to be learned, both as to their causation, persistency, and proneness to recur: and it is no great wonder that they should have these latter characteristics if we do not reach and rectify their underlying causes.

I say underlying causes, for while I recognize fully the local agencies, parasitic, microbic, and others, which may directly excite or even produce certain lesions on the skin, I recognize also the fact that there must be some condition of system or tissues, which often escapes detection, which either renders the skin susceptible to many of these influences or directly excites it to disease now and again; for but few of the diseases appearing on the skin are like small-pox, in which the poison secures immunity from another attack. We have learned that all of us are exposed to the infection of tuberculosis almost daily, and yet few are seriously affected, and in like manner pus cocci are well-nigh omnipresent, though relatively few are afflicted with boils, carbuncles, or pus infections. In many affections of the skin there is absolutely no reasonable indication that local agencies play any causative part in their occurrence.

It will be the object of these lectures to make as clear as possible the relations which exist between diet and hygiene and many diseases of the skin, both from an etiological and therapeutic standpoint.

A large proportion of the actual cases of disease ap-

pearing upon the skin have more or less to do with the nutritive processes which are continually going on within the body, and are to a greater or less degree affected by metabolism; this has been shown by many, and was the special topic of discussion at the 5th International Dermatological Congress, in Berlin, in 1904, with a number of papers on the subject.

In order to understand properly the basis of diet and hygiene in diseases of the skin it may be well to quote the conclusions presented by the present writer on that occasion,[1] and confirmed by others present:

1. Metabolism represents the series of chemico-physiological changes occurring within the system, by means of which, first by *anabolism,* nutritive material and oxygen are converted into an integral part of living tissues; and, second, *catabolism,* whereby their potential energy is expended in living force and heat, and the products of the physiological disintegration of tissue are rejected, in altered form, and appear in the excreta.

2. As healthy cell action and transformation is produced and maintained by perfect metabolism, so when there is perverted metabolism the structures in various parts of the body must suffer, and this we call disease, of the skin or other parts of the economy.

3. As every cell in the body constantly takes up and gives off material, so the results of metabolism can be

[1] Bulkley. Diseases of the skin connected with errors of Metabolism. Medical Record, Nov. 26, 1904.

affected by the normal or abnormal action of every living cell in the organism.

4. Metabolism is, however, principally affected by 1, the kind of nutriment taken; 2, the action of the digestive organs and ductless glands; and, 3, the action of the nervous system.

5. Certain skin lesions, or eruptions, have been credibly reported as connected with or dependent upon the generally recognized metabolic conditions of, 1, Gout: 2, Rheumatoid arthritis: 3, Diabetes: 4, Obesity: 5, Scrofulosis.

6. As yet no absolute statement can be made as to the necessary connection of the two, for the same eruptions occur in connection with several of the metabolic conditions.

7. The idiosyncrasy of the patient, and many causative elements, external or internal, nervous, etc., often determine which form of skin disturbance or alteration shall take place.

8. Errors of diet, disorders of digestion, faulty excretion, and nervous derangement, which have long been recognized as causative elements in many diseases of the skin, often find their ultimate expression or mode of action through the faulty metabolism induced thereby.

9. Metabolic errors are exhibited in the excreta from the lungs, skin, intestines, and kidneys: and of these the urine best affords a satisfactory indication, as it

represents nearly one half of the total excreta, and practically all of the nitrogenous and soluble mineral substances, together with about one half of the water expelled from the system.

10. Complete and minute volumetric urinary analysis is a very great aid in discovering metabolic errors, and in establishing proper therapeutic measures for the cure of many diseases of the skin.

We see, then, that there is a thoroughly scientific basis for the thesis that diet and hygiene are of importance in relation to many diseases of the skin, and most of us can recall instances where the clinical evidence of this was irresistible. Thus, it is a matter of common observation that acute erythema or urticaria may result in some persons from the ingestion of certain forms of fish, particularly shell fish; and also occasionally from strawberries, bananas, mushrooms, etc. Some individuals are so constituted that whenever these are partaken of, the eruption will appear, while many others are thus affected only when the articles are stale. It is also well known that in some persons crops of acne follow the free use of certain articles, as buckwheat, chocolate, nuts, cheese, etc., while the acne lesions arising from gross indiscretions in diet, as from partaking largely of fruitcake, mince pies, sausages, etc., are of daily observation on all sides. The ill effects on the skin of alcoholic drinks, including wine and beer, are well known, and many a case of cutaneous disease persists as

long as they are indulged in, but yields to previously ineffective treatment when these are abandoned.

In the same manner in which acute eruptions are produced by acutely acting dietary causes, so a chronic error in diet can and often does induce, or at least keep up, a more chronic cutaneous lesion, which of necessity will return as often as a conjunction of causes operates with sufficient force. A most evident and well-recognized illustration of this is found in *scorbutus,* where the hemorrhagic tendency in the skin and other organs is plainly due to a deficiency in the acid salts found in the vegetable portion of the diet, and is rectified when fresh vegetables or fruits are supplied. It is also shown in the tendency to the development of the tubercle bacillus in the lungs and other organs, including the skin, in those whose diet is deficient, especially in phosphates and fatty matter. The results of errors in diet are often seen in *psoriasis,* where an excessive consumption of protein matter, or indulgence in alcoholics, may bring on a fresh attack, whereas there may be entire or comparative freedom from the eruption under a strictly vegetarian diet, and teetotalism. In addition to the acute effects of alcohol on the skin, which have been alluded to, there is much evidence to show that its habitual use has much to do with the ulcerative lesions of syphilis, while its prejudicial effects on many chronic diseases of the skin is a matter of daily observation.

Precisely how diet has its influence upon the state of

the skin cannot be accurately stated at present, for unfortunately few have made it a matter of great study or observation, and very little is found written upon the subject in text books or in current literature. But from what has preceded, and from what is known of the subject, we may conclude that there are four methods by means of which this may occur:

1. There may be a direct irritating action from the ingesta upon the stomach and intestines, giving rise to reflex cutaneous eruptions, as in the erythema and urticaria from shell fish, strawberries, mushrooms, etc. These eruptions sometimes vanish very promptly when the offending mass is rejected by the stomach or removed by purgation.

2. Articles of diet may produce various forms of gastric and intestinal indigestion, giving rise to imperfectly elaborated material, or to toxins, which then have a direct irritating effect in their circulation through the capillaries, and possibly in their attempted elimination by the skin; as in acne from indulgence in sweets, pastry, cheese, etc., or in psoriasis and some other affections from an excessive protein diet.

3. Possibly certain elements may have an action directly on the skin tissues, in a manner similar to that of some drugs, such as iodides and bromides; it is more than probable that alcohol, which can be excreted by the skin, may act in this way.

4. The error in diet may consist in the absence of

certain elements in the diet requisite for the proper and exact nutrition of the skin, interfering with the process of keratinization, or otherwise; even as rickets arise from absence of the proper salts in the food, and scorbutus, from the absence of fresh vegetable acids and salts, which disorders are checked when these are supplied.

Much as has been written concerning diet of late years it must be agreed that practically but few, either in or out of the profession, have thoroughly clear views in regard to the matter of its connection with disease of the skin, and fewer still put any great amount of thought on the subject, or follow perfectly and persistently any definite plan or rules of diet and life.

A healthy appetite and good common sense should ordinarily be sufficient guides in the matter of diet, but unfortunately one or both of these may be lacking; moreover, the refinements of civilization have added greatly to the temptation of overeating, as well as wrong eating and drinking, as they do to many other temptations. Witness the very common remark, when a tempting dessert is offered, "Oh, I have had enough to eat, but that looks very good; I will try a little"; and so the poor digestive organs are taxed just so much beyond their powers. Few persons distinguish between *appetite* and *taste;* they *gratify* their *taste* long after the *appetite* is *satisfied.* Sir Henry Thompson,[2] in his ex-

[2] Thompson. Diet in relation to Age and Activity. London, 1887.

cellent little book on "Diet in relation to age and activity" remarks, "I have come to the conclusion that a proportion, amounting at least to more than one half of the disease which embitters the middle and latter part of life, among the middle and upper classes of the population, is due to avoidable errors in diet." And this is certainly so in regard to disorders which appear upon the skin.

To the popular mind dieting represents a starvation or famishing process, generally to be continued for but a short time, with a view as it were of starving out a disease, when it seems to be expected that the disease will remain absent. Now there is no question but that total abstinence from food, taking only water for a while, is of the greatest value in certain acute febrile conditions, and in certain gastro-intestinal affections, and also in certain congestive diseases of the skin; and it will also be seen later that an extremely light, rice, diet for some days is often most beneficial in many cutaneous troubles. It is a great error, however, to expect any such brief dietary effort to have any permanent good effect in such rebellious affections as those which commonly occur on the skin.

In connection with many skin diseases diet has a much broader meaning, and signifies *such a regulation of the quantity and quality of food and drink taken, its mode of preparation, and the time and method of its consumption, as shall conduce to the restoration and maintenance of the health of the body, including the skin.*

Errors of diet which may constantly be detected by an observant physician are far too numerous to mention, and time permits us to consider only a few of them now, others will be brought out later. I would like, however, first to briefly notice some of the points mentioned in this definition of diet, which I find of importance in practice.

First, as to the *quantity* of food. I have already alluded to the tendency to overeat, and that so many *gratify* the *taste* long after the *appetite* is *satisfied.* It is now pretty well recognized that those in the well-to-do classes eat too much; and this is also often the case among those who are relatively poor. Not that the system is too well nourished, for that cannot be, but very many eat far, far more than the system requires in order to maintain a proper physiological equilibrium and to accomplish the work necessary to be done, whether it be mental or physical. It has constantly happened, when I have placed patients on a very restricted diet, with careful instructions in regard to the items to be mentioned later, that they have stated that they never felt better or had greater power of work, but that they were not consuming one half or one third of the amount of food which they formerly took. Unquestionably the overloading of the system with material which can be only partially digested and assimilated has often given rise to intestinal fermentation and to many derangements of metabolism which induce and

perpetuate certain skin affections; it is most often in regard to sweets and accessories that this error occurs, but gross errors are continually happening in regard to the excessive use of food and drink of all kinds, as will be seen later. Underfeeding or, rather, undernourishing, can, of course, induce anæmic conditions which may in turn influence the skin, but in my experience this is so rarely the case that it is hardly to be considered in comparison with errors of overfeeding; and I frequently find that this latter, forced feeding, has often been wrongly advised by physicians in special cases, instead of giving proper attention to matters which will promote the correct assimilation of smaller and more appropriate quantities of food.

Second, the *quality* of the food may often have a very great influence on certain eruptions, as will be more fully developed later. But in all this attention to diet it must be remembered that often "what is one man's meat is another man's poison," and it frequently astonishes an observant person to see what gross errors of diet can often be indulged in with apparent impunity. The subject of special articles of diet is a very large one, and must be deferred until the next lecture, but it must never be forgotten that the question which is often asked by patients with certain diseases of the skin, "Does it make any matter what I eat?" should always be answered strongly in the affirmative, as I hope to abundantly show before these lectures are finished.

The *mode of preparation,* and possible combination of food stuffs are also often of great importance, but these can be better considered in connection with the several articles of diet to be spoken of in a later lecture.

The *time and method of consumption* are very important matters, which few realize but which are constantly seen to affect the digestion and metabolism greatly, and may frequently be observed to have very considerable influence upon certain diseases of the skin. Many will recognize that pleasant surroundings and agreeable company are great aids to digestion, and one often meets with confirmed dyspeptics, or those who suffer greatly under the simplest diet, who can go to an agreeable banquet and indulge in very many things with apparent impunity, which under ordinary circumstances would be quite impossible. But the reverse of this is not recognized often enough, namely the ill effects which may and constantly do follow various conditions or circumstances of an adverse nature, some of which will be briefly considered later.

One of the great faults in the habits of the American people is undoubtedly haste in everything, and this is continually exhibited in the matter of eating, and consequently in imperfect mastication and inadequate insalivation. It would seem almost unnecessary to remind you that the process of digestion begins in the mouth, and that the saliva should play an important part in digestion, as shown so strikingly by the instructive

experiments of Sir William Roberts.[3] But the error of rapid eating is so continually occurring and unquestionably is the cause of so much trouble, that it is necessary to call your special attention to it, because sooner or later it will certainly be of importance in some of your patients, whether they have disease of the skin or other complaints. A little observation will show that very many swallow their food with very little chewing, washing it down with various liquids, and that the time consumed for taking even a large quantity of nutriment is sometimes a very few minutes.

Mr. Horace Fletcher has undoubtedly done a great service to humanity by his persistent efforts to influence others to follow the plan which has done such wonders for his own physical health and well being; and the words "Fletcherize," and "Fletcherism" are a great aid to the physician in making patients understand both the importance of this part of digestion and the method of effecting it properly. I will not take time to present his reasons and arguments, nor will I enter largely into the details of his procedure, with which many of you are no doubt acquainted. I may say, however, that being familiar with his books and having heard him speak twice, and having taken part in the subsequent discussion on both occasions, I am thoroughly in accord with his views, and believe that I have myself personally profited by trying to carry out his method of thorough

[3] Roberts. Lectures on Dietetics and Dyspepsia. London, 1886.

mastication and insalivation; and I know that I have rendered inestimable service to very many of my patients whom I have induced to adopt the plan, more or less completely. I think, however, that relatively few persons succeed in carrying out his method perfectly, and consequently many do not reap the full benefit which can come from it, when rightly practiced.

In brief, as I understand it, Mr. Fletcher's idea is to compel the mouth and teeth to perform the part in digestion which nature intended that they should do, and with persistent and protracted mastication to resist the inclination to swallow a mouthful as long as it can be prevented, and until it is perfectly insalivated. And this is accomplished easily if the attention is seriously and patiently directed to it; and the result of it is, as a rule, that far less food is eaten. Too many, of course, gratify the taste when they think that they are satisfying the appetite, and as Prof. Chittenden has so clearly shown,[4] many if not most persons consume very much more food than is at all necessary for the perfect equilibrium and efficiency of the system, under the most different conditions of work. Sir Michael Foster of London, found that when the Fletcher method was pushed to its limits, "complete bodily efficiency was maintained for some weeks upon a dietary which had a total energy value of less than one half of that usually taken, and

[4] Chittenden. Physiological Economy in Nutrition. New York, 1904.

comprised little more than one third of the protein consumed by the average man."

When Mr. Fletcher was undergoing the experimental study of his physical condition at Yale, where at 50 years of age he excelled the College athletes in all tests, his food cost but eleven cents per day, under his system of Economic Nutrition, aided by his practice of thorough insalivation. The recent study of the cost of living by a govermental commission has shown that the per capita consumption of all kinds of food has increased enormously in the United States during the last ten years; in some foods there has been from 10 to 25 per cent., or more, increase, so that it is not so much the *high cost of living* as it is the *cost of high living* which is at fault at the present time. And this high living, or excessive consumption of food, is unquestionably affecting diseases of the skin badly, as well as those of other organs, as I have observed for many years in innumerable cases.

Pardon my taking so much time on this matter, but my experience for over forty years has shown me that diet is of such supreme importance in so many of the cases which come under my care, that I cannot forbear being as emphatic as possible, and I strongly advise you to read and carefully consider Mr. Fletcher's remarkable series of books, and others on the subject.[5]

[5] Fletcher. The A. B. Z. of our own Nutrition. New York, 1910. Fletcher. The new Glutton or Epicure. New York, 1909.

There are many other items connected with diet which contribute towards bad digestion which must be briefly mentioned, as close observation shows them often to have important relations to certain diseases of the skin.

Mental influences have long been recognized as having an effect in determining or perpetuating eruptions on the skin, and it is believed that this occurs often, if not chiefly, through their influence upon the digestion. Repeatedly patients with *eczema, psoriasis, urticaria, acne,* etc., will have outbursts of eruption following household or other worries, which have produced indigestion of more or less acute character. Any strong mental excitement can also arrest or delay digestion, and it is well known that after-dinner orators are very apt to be troubled with sluggish or disturbed digestion, which I have repeatedly seen bring on renewed attacks of *eczema,* especially about the face.

It is well to remember that numerous experiments with animals, especially cats, have shown that the peristaltic movements of the stomach and intestines, as watched by means of bismuth and the x-ray, will be arrested completely when the animal is irritated and in a rage, and return to a normal action when the animal is again soothed.

Nervous shock has also been observed to be followed by the appearance of certain eruptions, and this probably operates also through an arrest of the digestive functions, resulting in subsequent fermentation and

auto-intoxication. I have known the shock of a suddenly proposed minor operation to arrest the stomach digestion in a perfectly healthy lady, aged about 25, so completely that the breakfast, taken at about 7.30 remained absolutely undigested until vomited, when under ether, at 3.30 P. M., nothing having entered the stomach between these hours.

Fatigue can also delay and interfere with digestion, often in a remarkable manner, as patients will frequently testify, and many will date back an increased eruption to a time when excessive fatigue caused a meal to be very slowly digested; in one case I knew of an evening meal taken rather late, and after fatigue, to remain in the stomach from Saturday evening until Monday afternoon, when it was rejected intact, no other food having been taken between because of abdominal distress.

The question of *rest* before or after eating is also often an important one in the treatment of certain diseases of the skin which are dependent more or less upon the digestion. Active exercise is certainly not desirable after eating, as is shown by certain experiments on a pack of hounds. They were all fed alike, and immediately half of the pack were taken on a long, quick chase, the other half being left in the kennels. On returning some of each lot were killed, and in those who had been running the food was found undigested, as it had been eaten, while in those which had remained quiescent the process of digestion was complete. But

experience shows that recumbent rest or sleep after meals generally affects the human being badly, whereas half an hour's nap, beginning one hour before the meal, is of the most signal advantage in many diseases of the skin, by placing the system in a far better condition for digestion.

Finally, *irregular eating,* both as to the daily meals and also between, has often a great bearing upon certain diseases of the skin, and should always be looked into, especially in rebellious skin cases; and the greatest improvement will often be found, under the same measures as used before, when this is rectified.

While the human system is a marvellous mechanism, and the more it is studied the more marvellous it appears, and while many seem to have a resisting force which can overcome all sorts of obstacles to health, it is to be remembered, as stated in the beginning of this lecture, that there must be a cause for everything; and the cause of many diseases of various organs of the body, including the skin, is often found to depend upon errors of metabolism, and these again upon avoidable errors of diet. And in searching out and rectifying these we shall secure the greatest degree of success, with, of course, the employment of other proper measures. In the succeeding lectures I shall endeavor to enter into specific details more fully in connection with certain diseases of the skin and to make practical application of the principles thus far evolved.

LECTURE II

LECTURE II

Nutrition as indicated by repeated volumetric urinary analysis. Danger signals from the skin.—Excess of nitrogen in the food often at fault.—Vegetarian diet may even have this in beans, peas and lentils.—Fish and shell-fish.—Spiced foods. —Vinegar.—Nuts.—Sweets.—Fruits.—Dried Fruits.—Tea, coffee, cocoa, and chocolate.—Alcohol, influence on the skin. —Alcoholic drinks, harmfulness in syphilis and many dermatoses.

GENTLEMEN:—

In the previous lecture we considered the general facts and principles which establish the great importance of diet in many diseases of the skin, and some of the factors which contribute to the proper digestion of food taken. Special emphasis was laid upon mouth digestion, namely mastication and insalivation as practiced and advocated so strongly by Mr. Horace Fletcher, to whom the world is so much indebted for the introduction of what is now known as "Fletcherism." We will now take up more in detail some of the special points and particular items of diet which are of importance in connection with our subject, and in another lecture we will consider more particularly the diet in certain diseases of the skin.

We have already seen that the vitality of the skin and its ability to resist various forms of disease depends largely upon the condition of systemic metabolism, which represents the manner in which nutrition is carried on. Good and bad nutrition are in a measure relative matters, varying in different individuals, and also in the same person nutrition may be good at one time and bad at another time, even in successive days. We are never safe, therefore, in assuming that the nutrition is good without due investigation, and the time-honored method of examining the tongue and feeling the pulse is an expression of the natural desire to ascertain some definite information as to the performance of the life processes; and these should never be neglected in many of the diseases of the skin. But far more is required in order to learn as to the effect of diet, and a searching inquiry as to the performance of every function can alone enable the physician to fully understand in what manner nutrition is carried on; we have already seen that repeated and careful volumetric urinary analysis affords a most valuable indication of this.

All know that human nutrition depends upon the ingestion of protein, carbohydrates, fats, mineral salts, and water, which, with the inspired oxygen, are combined to form the elements of the body, to produce heat, and create energy, mental and physical. We all know that for perfect nutrition the body requires varying amounts of these substances according to age and activity; for

the actively growing system quite other nutritive elements are required than for old age, as in the young there is a constant need of protein to build up the growing body; but we have already seen that in general far too much food is taken into the system, with the result of impaired function of the digestive and metabolic powers, and moreover that this occurs far oftener to *gratify* the *taste* than to *satisfy* the *appetite.* And it is for the physician to guard his patients against the many errors which unconsciously creep in. It is well to remember that many eruptions on the skin are but *signal flags of danger,* indicating deeper defects, often in diet, and that to prescribe simply local treatment alone is as irrational as it would be to remove the danger signal from an open drawbridge or a deranged railroad switch.

Mention has been made that excess of protein, in meat and other nitrogenous food, is one of the elements which is chiefly at fault in connection with certain diseases of the skin. It would take us too far from the practical aspect of our subject to enter at all fully upon the physiological chemistry of protein and the injurious part it may play in the human organism, which have been so greatly elaborated of late by many observers. Chalmers Watson [1] and others have shown in a most remarkable manner, by animal experiments, that an excessive meat diet alters very materially the microscopic

[1] Watson, Chalmers. Food and Feeding. New York, 1912. Appendix.

structure of very many organs and portions of the body, including the sexual organs, and arrests in a startling degree the fecundity of rats.

Suffice to say that it has been abundantly demonstrated on animals and clearly shown by Chittenden [2] in regard to human beings, that the hitherto accepted estimate of the amount of protein required, namely about 118 grams daily for a healthy adult, is far in excess of the needs even of very considerable activity, and that there is greater well being on one half or even one quarter that amount; indeed "there are a great many observations and some facts which warrant the view that the nitrogenous waste products of the body—the products of protein metabolism—are more or less dangerous to the well being of the organism." This will be considered more fully when we come to the diet of certain diseases, especially psoriasis.

The carbohydrates and fats, as we all know, have to do largely with the production of heat and the expenditure of mental and physical force, and aside from certain unusable portions, are completely oxidized, and pass off as water and carbon dioxide, by the lungs, kidneys, and skin; they serve also as sparers of proteids, which also produce heat in their oxidation. Vegetarian products, while consisting mainly of carbohydates and water, also themselves contain varying amounts of vegetable protein, and salts, which in the

[2] Chittenden. Physiological Economy in Nutrition. N. Y., 1904.

herbivora provide quite sufficient nitrogen to build up and preserve the animal tissue from which we obtain our nitrogenous food. It has been abundantly demonstrated both experimentally, and by the thousands who have practiced it for years, that an exclusively vegetarian diet can also supply all the protein necessities of man, and can keep him in perfect health, and can preserve a nitrogenous balance, under the most varying conditions of existence and activity. It is a well-known fact that vegetarians have repeatedly and almost constantly won in very severe athletic contests, and for many years I have observed scores of patients, some of them over long periods of time, who have experienced so great well being, and such clearness of mind and vigor of body, that they have stated that they would not for any consideration return to a mixed diet. From much study of what has been written on the subject, and from observation for many years, I am thoroughly convinced that in a not inconsiderable number of diseases of the skin these troubles are overcome more quickly and easily, and permanent results are more surely obtained, by adherence to a strictly vegetarian diet, than under one with an admixture of animal protein, while under much the same local and internal treatment.

It must not be forgotten, however, that certain articles belonging to the vegetable kingdom contain a very large proportion of protein, indeed, some of the pulses, as

dried beans, peas, and lentils, are so rich in nitrogen that they have been called "the poor man's beef"; and I have found that when they are largely indulged in they will have the same effect as does meat, in exciting an eruption of psoriasis. Their percentage of protein varies from 21 to 32.9 while raw beef has 22.51 per cent. and roast beef only 34 per cent. of nitrogenous matter. It may be interesting to mention in this connection the fallacy which has so long existed in regard to the superiority of poultry in place of butchers' meat as a less nitrogenous diet; for the percentage of protein in different species varies from 20.8 per cent. to 25.7 per cent., the latter being found in the white meat of the turkey.

Fish is commonly regarded as injurious in diseases of the skin, because on certain occasions an acute outbreak of urticaria has followed its ingestion; but these attacks can almost always be traced either to other causes, or to some peculiar idiosyncrasy, in the individual, or possibly to a stale or bad portion of fish. There is no intrinsic reason why fish should not be taken. As far as is known there is nothing in good, fresh fish which is prejudicial to skin affections; only it must be remembered that "protein and fat are the chief nutrient constituents found in fish, just as they are in meat," [2] and that the percentage of protein ranges from 14.2 to 22

[2] Hutchison. Food and the principles of Dietetics. 3rd edition, N. Y., 1911.

per cent., almost as high as in some meats. But practically fish is often found to take the place of meat with advantage, as it is less rich in extractives and so less stimulating, and also perhaps, because the actual quantity or weight eaten is commonly less. Some of the heavier varieties, however, such as salmon, blue fish, and mackerel, which contain much protein, will sometimes so disturb the digestion that an eruption may result; but in the main fish seems at times a peculiarly good feature of diet to replace meat, when it is desirable to curtail the nitrogenous intake. Recent researches tell us, however, that fish is not so rich in phosphorus as formerly supposed, and that it is not, therefore, peculiarly valuable as nerve food. Salted fish is not very desirable in skin affections, but experience shows that when occasionally taken in moderate quantities it does no harm.

There is one disease, however, which is spread by eating fish, and that is *leprosy,* as Mr. Jonathan Hutchinson has so conclusively shown,[4] and as many of us have long believed. But this need cause no alarm, for it relates only to fish which has been infected with the leprosy bacillus, even as infected oysters may communicate typhoid fever and mosquitos may convey malaria or yellow fever, when they have harbored the microbe. Thorough cooking destroys the parasite, but in regions where leprosy has spread fish has been eaten raw or

[4] Jonathan Hutchinson. On Leprosy and fish eating. London, 1906.

only dried or lightly smoked or salted; some of the sporadic cases of leprosy in this country may have come from caviar, which is the uncooked roe of certain fish which may come from leprous centers.

SHELL-FISH are also of bad repute in connection with diseases of the skin, but aside from their indigestibility as they are often prepared for the table, I have never been able to see any intrinsic reason why they should be harmful in this class of cases, nor many definite instances of their proving so.

It is a common direction, often given in connection with the treatment of many diseases of the skin, to avoid *spiced foods,* whatever may be indicated thereby. I have never been able to discover exactly the reason for this, unless it be that such may unduly stimulate the appetite, and so lead to overeating. There is nothing essentially harmful in the very moderate use of condiments, indeed by promoting good feeling and improving digestion they may often be of service in combating certain cutaneous troubles: although I have known patients who said that such a trouble as *pruritus* was increased thereby.

VINEGAR is also often interdicted unnecessarily, whereas good, genuine, acetous vinegar is often beneficial, as it aids in softening the hard fibres of meat and the cellulose of green vegetables, and I have never seen cause to believe that it is harmful in diseases of the skin.

There is quite a difference, however, in regard to vegetables, although most of them may be eaten with impunity by patients afflicted with skin diseases. Mention has already been made of the pulses, beans, peas, and lentils which contain a large percentage of protein; the same is also true of *nuts,* which vary in their proteid element from chestnuts, with 6.6 per cent., to peanuts which have 27.9 per cent., sweet almonds having 24 per cent.; chestnuts have a very large per cent. of carbohydrates, 45.2 per cent. But most nuts as ordinarily eaten are not readily digested, although very thorough mastication aids materially in this. The objection to nuts is that they are often eaten after the normal appetite has been fully satisfied, and even after the system has been overfed by a sweet dessert; as a rule nuts had better be avoided by patients with many diseases of the skin. I have repeatedly seen fresh attacks of *acne* develop after indulgence in nuts.

CHEESE is also an article of dubious value in many affections of the skin, and not infrequently patients will realize that an eruption has been aggravated after its free use. I know that some have advocated cheese in place of meat in those subject to uric acid difficulties, and where thus used it may have its value. But too often cheese is taken as an accessory, after a hearty meal, and only adds to the embarrassment of the digestive organs and disturbs metabolism.

SWEETS are also a fertile source of digestive disturb-

ance leading up to trouble on the skin, as patients will continually testify. But sugar itself, a practically pure carbohydrate, has a high food value, for every gramme of it will yield 4.1 calories of energy, and numerous experiments have shown that as a muscle food it excels almost any other article. It is, therefore, not desirable to cut off its use entirely, in pure form, but, as we shall see later, harm comes from its excessive use, and from the manner in which it is largely employed, in various combinations with many articles; for thereby substances which otherwise might prove harmless, are rendered indigestible, as for example in richly preserved fruits.

Fruits are often thought to be harmless, or even beneficial in diseases of the skin, but here also caution is often necessary to be exercised. All know that in some individuals strawberries, raspberries, and sometimes other fruit will produce an *urticarial eruption* whenever eaten, and in others only on certain occasions. Few of the fruits contain a large amount of nourishment, and they are taken more for their sweetness and flavor than for their actual food value. But the mineral constituents of fruits are of considerable importance, and consist mainly of potash, combined with various vegetable acids, as citric, tartaric, and malic. In some diseases, as *scorbutus* these are of important therapeutic value, but I have had reason to believe that raw fruits as we get them in New York, at all seasons, too often ripened artificially, contain too much acid and are not

desirable in many congestive conditions of the skin; and I have certainly seen cases which seemed to be aggravated by indulgence in them, for instance, especially in grape fruit. Fruit stewed without sugar, and baked apples are not objectionable, but when made into preserves they are prejudicial in most skin affections.

DRIED FRUITS, FIGS, DATES, PRUNES, and even RAISINS are very nutritious and represent a low protein and high carbohydrate contents, which consists mainly of sugar; with consequently the very great value of 1615 calories per pound in the case of dates. They may, therefore, be judiciously employed in connection with a vegetarian diet when this is indicated.

TEA, COFFEE, COCOA, and CHOCOLATE are articles of common consumption about which one is continually asked in connection with various diseases of the skin, and it is not always easy to give a definite and satisfactory answer. Tea has been shown by Roberts and others to inhibit the conversion of starch into sugar by the saliva and also to retard digestion in the stomach,[5] and there is no doubt but that its excessive use, or abuse, produces certain nervous conditions which can greatly aggravate certain diseases of the skin. Its ill effects are often seen in working people who keep it long brewed and drink it many times daily. Often nursing mothers drink tea largely, and I have repeatedly seen a nursing infant with severe eczema which had long

[5] Roberts. Lectures on Dietetics and Dyspepsia. London, 1886.

resisted intelligent and energetic treatment, get well shortly when the mother ceased tea drinking. When freshly drawn and taken very weak once daily it is probably harmless in most skin affections, but in rebellious troubles it is always wise to investigate and regulate the matter of tea drinking.

Coffee acts on the system somewhat differently from tea, though it also retards both the salivary and gastric digestion, and affects the nervous system, and through it the heart. It is to be remembered that caffeine is a medicinal agent of no uncertain character; given in large dose to the lower animals it produces hurried respiration, restlessness, slightly lowered temperature followed by marked elevation in the same, tetanic and clonic convulsions, progressive paralysis, and finally death from paralytic arrest of respiration; it cannot therefore be without effect on the nerves and unstriped muscles of the skin. Caffeine also in its chemical composition is closely allied to uric acid and is contraindicated in gouty conditions, with which so many patients with certain diseases of the skin are often affected. It is well, therefore, in both acute and obstinate cutaneous affections to guard against the harm arising from coffee, and if used at all it should be in great moderation, and as a rule I exclude *cafe noir*. The recently introduced de Kafa, or coffee from which a large part of the caffeine has been removed, seems valuable, and often agrees far better than the natural article.

Cocoa has very much less effect on the nervous system than either tea or coffee, and also less inhibitory effect on the salivary and gastric digestion; but the large proportion of fat it contains renders it sometimes difficult of digestion; when made with milk it has been found to remain in the stomach 2½ hours. Phillips' digestible cocoa seems to answer very well as a beverage, and may be allowed in most skin diseases, if made with little or no milk. The theobromine of cocoa, though closely allied to caffeine, and existing in about the same per cent. as the latter in coffee, does not seem to have so deleterious an effect on the nervous system, but cocoa contains also a very considerable per cent. of nitrogenous matter.

Chocolate, as found in commerce is simply ground cocoa with the addition of sugar, starch, and flavorings, and different samples and makes are found to differ very greatly in their chemical constituents; thus, the nitrogenous matter has been found to vary from 3.9 per cent. to 18.14 per cent., the carbohydrates from 26.8 to 66.8 per cent., and the fats from 21.2 to 47.1 per cent. Therefore when advising in regard to its employment there is great uncertainty as to its action according to the variety and brand employed, and it is difficult now to speak favorably in regard to its use. Time and again I have found *acne* and *eczema* to be aggravated or kindled up afresh by indulgence in chocolate, and it had best be prohibited in rebellious skin

affections, both as a beverage and as a food. An insidious form of intestinal indigestion, resulting in disturbed sleep and dreams is often directly traceable to chocolate, and this can be an efficient cause of *urticaria* and other skin troubles.

All of these beverages are commonly taken with more or less sugar and milk, which are also to be reckoned with in relation to diseases on the skin. We have seen that sugar variously combined can act prejudicially; later we shall see that milk may be harmful in some cutaneous conditions, except when taken according to a certain definite plan, and it is often necessary to limit its use very greatly in the beverages just considered; nor can it be taken with impunity as a substitute beverage by many patients with *acne, eczema, urticaria,* etc.

Various substances have been offered in place of tea and coffee, such as postum, and beverages made from parched cereals, most of which are harmless, though if served with much sugar and milk they may still affect some skin affections unfavorably.

Alcohol, and the various compounds containing alcohol, even to a very moderate degree, have very decided effects upon the skin, and it is an agent to be by no means disregarded in connection with dermatoses of various kinds.[6] Time does not permit our entering here on any full consideration of the physiological or

[6] Bulkley. The influence of alcohol in certain diseases of the skin. Medical Record, Feb. 19, 1910.

pathological action of alcohol. It may be stated, however, that experimental study has established the fact that alcohol certainly has a prejudicial effect on cell life, both vegetable and animal, and pathological studies have demonstrated degenerative changes in almost all tissues of the human body as a result of the action of alcohol, even when taken in moderation internally. It is natural, therefore, to suppose that the skin suffers with the rest of the economy, and clinical experience shows this certainly to be the case, often from even moderate use of alcoholic drinks, however well diluted.

There are several ways in which alcohol may have an effect upon diseases of the skin; 1. By its effect upon the nervous system. 2. By its effect upon the circulation, and 3. By its effect upon metabolism; all of these elements have much to do with the production and continuance of cutaneous affections.

All experiments and observations show that by its sedative action on the vaso-constrictor center of the medulla, alcohol causes a slight paralysis of the nerves controlling the capillaries of the skin, and the sense of flushing after its use in any quantity is well recognized. This dilatation of the cutaneous capillaries leads to a greater flow of blood in the surface of the body, and of course to a greater congestion of diseased portions, which congestion is one of the chief features in many dermatoses most difficult to control.

Although alcohol in small quantities may act as a

food and be quite assimilated when taken in very great moderation, its effects upon metabolism are by no means favorable in the long run, as has been abundantly demonstrated experimentally and clinically, and by the disturbances produced it readily affects many diseases of the skin. Even in the matter of infectious diseases, it has been shown that animals intoxicated by alcohol are more susceptible to bacterial infection or to toxins than are normal animals. It has also been demonstrated that alcoholism, acute or chronic, lessens the number of leucocytes, and that the repair of wounds takes place more slowly in drinkers, because of the insufficient supply of white blood corpuscles at the area undergoing healing.

Syphilis furnishes one of the most instructive evidences of the harmfulness of alcohol on the tissues, and Fournier speaks of alcohol as the natural born enemy of syphilitics. It is rare to find bad, ulcerative syphilis in those who have always been teetotalers, whereas some of the destructive lesions seen in steady drinkers are most pitiable: this is especially true also in regard to brain lesions, and late nervous diseases, as locomotor ataxia, polyneuritis, paresis, etc. The most important direction to those who have acquired syphilis is that they shall totally abstain from all alcoholic and fermented beverages indefinitely.

Acne rosacea also demonstrates in a striking degree the injurious effect of alcohol on the skin, and all are familiar with the red noses and cheeks of habitual drink-

ers. The reason why this permanent disfigurement occurs principally on the face is undoubtedly due to the paralyzing effect of cold on cutaneous vessels when greatly dilated by alcohol; with this continued excessive supply of blood there is often more or less hypertrophy of tissue, which may cause an immense enlargement of the nose, resulting in *rhinophyma.*

But it is not necessary to take alcohol in the form of distilled spirits to have its deleterious effects manifested in the skin, for clinical observation shows continually that even the lightest forms of wine and beer may be followed by eruptions which prove rebellious while they are persisted in, but the same troubles yield when drinking habits are changed. Here probably we have also to do with the other ingredients of various beverages, salts, acids, ethers, extractives, and the many substances entering into their makeup.

Acne is constantly met with in those who indulge in moderation in wines and malted liquors, even to a moderate degree, and often it is quite impossible to remove the trouble permanently while these are persisted in.

Eczema often exhibits the baneful influence of alcoholic drinks, whether distilled or fermented, and patients continually recognize this partially, so that when it is made clear to them they are quite willing to forego drinking in order to be cured. Time and again I have seen fresh attacks brought on by indulgence in them,

and repeatedly I have been unable to cure the disease until these have been absolutely abandoned. In one particularly obstinate case of eczema of long standing in a gentleman, who could not believe that the moderate amount of claret which he drank could influence the disease, the eruption persisted most unsatisfactorily, but when he abandoned the claret, after long holding out, the eruption disappeared under the same treatment as before.

Psoriasis illustrates in a striking manner the injurious effect of alcohol on the skin, as many careful observers have recorded, and I have seen outbursts of the eruption following excesses in this direction; and in dozens of instances the eruption has been congested, inflamed, and itchy while they were persisted in, and then yield wonderfully well when all alcoholic or fermented drinks were absolutely excluded.

Time forbids going further into the subject, but enough has been said to show that distilled and fermented drinks are a far greater factor in connection with many troubles on the skin than many have been disposed to admit. One cannot, therefore, be too firm in controlling this element of diet in connection with the maladies mentioned, and also in many other diseases of the skin.

LECTURE III

LECTURE III

Liquid needed for digestion.—Mineral Springs.—Value of beverages; harm from cold drinks.—Milk harmful in many cutaneous affections, errors in taking.—Correct method of taking.—Absorption versus digestion of milk: physiological explanation.—"Alkaline tide."—Good and bad cooking of food: combinations.—Diet in relation to age and activity.—Vegetarianism.

GENTLEMEN:—

In the last lecture we ended with a consideration of some of the beverages commonly taken and their effect in certain diseases of the skin, and there are a few more of them which I wish to consider.

Water composes somewhere about two thirds of the human body, and is constantly given off by the skin, kidneys, and lungs to the amount of from four to six pints daily. Some of this excreted water, about one sixth, is actually formed in the tissues out of hydrogen and oxygen, but much is derived from the food consumed, which consists of fully fifty per cent. water, and the balance is drunk alone or in various combinations.

Water is, as we know, essential to the proper working of the animal system, and the sense of thirst is generally a proper and sufficient guide as to the amount to be

taken: and the wild or domesticated animals probably never suffer from errors in regard to its use, when a proper supply is accessible. But with man the temptations of modern life lead to innumerable indiscretions in regard to the amount, as well as the character, of the fluid taken into the system, some of which we have already considered in connection with various beverages which are often injurious. There remain some others to mention in regard to which errors are liable to occur.

It has been computed that under ordinary circumstances only about 2⅓ pints of liquid (or about 2 breakfast cups full, and three tumblers full), are actually required to be taken daily by the average person, in addition to that contained in the food. This may vary, of course, under different conditions, mainly when the skin is more active from exercise or in very warm weather, and we know of the vast quantities of liquid which are called for when the kidneys are extremely active in diabetes. But the taking of large amounts of fluids unnecessarily both throws undue work upon the kidneys, causes a higher arterial tension and unnatural strain on the heart, and leads to a certain infiltration of the tissues tending to obesity, as may often be observed in excessive beer drinkers, such as employés in breweries. All of these conditions may act prejudicially in connection with certain diseases of the skin.

It is true, however, that in some cutaneous affections associated with a gouty habit, an increased ingestion of

water for a while, often serves a very desirable end, in dissolving and washing out effete nitrogenous matter from the tissues, including the skin. It is well also to remember that occasionally one meets with anosmia, where there is such an absence of thirst that there is a viscosity of the blood, shown by great acidity and high specific gravity of the urine, which certainly augments any skin difficulty, and calls for relief by increasing the kidney secretion by means of copious draughts of water, and proper diuretics.

But it is not an indifferent matter in regard to the time and method of taking water, and special directions are often necessary lest harm be done. All know the ill results which frequently accompany the common American habit of drinking iced water, especially with or near the meals, and the catarrhal conditions following it may act prejudicially in many skin affections. While modern experimentation has developed the fact that water is not absorbed in the stomach, but begins almost at once to be forced in gushes through the pylorus, practical experience has also shown that much water, especially iced water, taken while eating delays the digestion, and so may disturb metabolism: but hot water escapes from the stomach more rapidly than cold.

It is well, therefore, in many cutaneous conditions, to give hot water one hour before the meal, for it has been shown that even a pint of water had passed into the duodenum within half an hour. A hint in this direction

may be taken from the many mineral springs which are found to be of more or less value in certain cutaneous affections; these are all or most of them (even including Vichy) hot or warm, and are administered a long time before eating. On another occasion I may be able to present to you a study on the mineral springs which are often advised for eruptive troubles, of which I have personally visited a very large number, in this country and abroad; I may here say, however, that my report on them, from what I have seen of their effect in hundreds of cases, would not be as favorable as some of you might expect, from the laudatory notices which are issued largely for commercial reasons.

In trying to satisfy the general craving for liquids, commercial enterprise has furnished a large number of beverages which are often offered to the public in a very tempting manner, but many of which are not without their drawbacks. Time does not permit me to even mention the numerous concoctions which allure the unwary, many of which cannot be indulged in without more or less injury; this latter is true if for no other reason than that they are generally taken iced, to say nothing of the many ingredients of which nothing is known, but which have sometimes been demonstrated to be actually poisonous. As a rule I enjoin my patients to shun them entirely, including what is commonly known as soda-water; indeed it is desirable for those who have a skin affection to avoid taking anything between meals, as

also anything which can possibly interfere with perfect nutrition.

There is one fluid of very general consumption, *milk,* which when taken wrongly can act very prejudicially in many cutaneous disorders, but which when rightly employed can be of such supreme value that I must devote a little time to it; although I know that many of you are already acquainted with and practice the ideas which I have advocated for so many years. But as it is necessary, in order to obtain perfectly satisfactory results that the plan be adhered to *absolutely,* even to the *minutest* particular, I will restate the details as briefly and clearly as possible. I will premise, however, that although the practical utility of the plan has been verified in hundreds of instances in my own practice, and by dozens of physicians who have spoken or written to me on the subject, still the exact manner in which it operates does not seem to be wholly in accord with some of the modern laboratory experiments on digestion. However, when clinical experience clearly demonstrates a fact, the burden of proof lies with science rather to explain how the result is obtained, than to criticise that fact theoretically, on the basis of laboratory experience, which seldom represents nature exactly; for, after all, the cure of our patients is what we seek, and it is only unfortunate when the laboratory and clinical medicine do not agree.

It is a common observation that many cannot take milk

in the ordinary way without producing in them a condition which is known as "biliousness," and for years I have noted that certain eruptions were aggravated when milk was freely and carelessly indulged in: but, on the other hand, I have for years observed, in many hundreds of instances, that the same persons could use milk on *exactly* the plan proposed without this result, and with only the most inestimable service.

There must, of course, be some reason why so perfectly prepared a food as milk is not always properly assimilated by adults, when in childhood it forms such a precious element of diet, under almost all circumstances. The explanation is found, I think, in the changed character of the digestive and metabolic process which pertain to adult life and tissues; of which we as yet know very little. We do know, however, that at puberty some change occurs in the system, shown in many ways, and illustrated dermatologically by the fact that *ringworm* of the scalp often ceases spontaneously at this time, and is very rarely manifested in the adult: while at that time *acne* tends to develop.

Watching for many years the different behavior of milk taken under different circumstances, I ventured some years ago[1] to offer certain suggestions in regard to the direct *absorption of milk,* without its undergoing the ordinary processes of caseation and digestion, and

[1] Bulkley. Proper Employment of Milk in Diseases of Skin, etc. Dietetic and Hygienic Gazette, May, 1908.

clinical experience certainly seems to demonstrate that this is possible. For, when taken on exactly the plan to be indicated its action is quite different from that experienced when taken regardless of the same, as hundreds will testify who have not heretofore been able to make use of it. Not only is there an absence of any of the former unpleasant feelings, constipation, etc., but there is an immediate refreshment and sense of well being: moreover, instead of its interfering with the appetite for and digestion of the next meal, one hour later, there is an increased appetite and improved digestion; which would not be the case if the milk took two hours to leave the stomach, as has been stated by some.[2]

The theory upon which the present plan of taking milk is founded rests upon the similarity of milk to chyle (formerly called "milk juice"), from which it is hardly distinguishable under the microscope. It is to be remembered that chyle is taken up by the lacteals, and discharged through the thoracic duct into the subclavian vein and vena cava, so reaching the lungs for oxidation, before encountering the liver. The question then arose if the milk, already in a state of perfect emulsion, could not pass directly into the lacteals in the same manner in which the elements of the chyle were absorbed, without the process of coagulation, caseation, and subsequent gastro-intestinal digestion and absorp-

[2] Hutchison. Food and the principles of dietetics. 3d edit., N. Y., p. 122.

tion. The problem, therefore, was to administer the milk at such a time and in such a manner that it would escape the acid and fermentative elements in the stomach, during the process of digestion, and so avoid being curdled before it could be absorbed.

Physiologically it is well known that the stomach in health does not ordinarily secrete gastric juice except under the stimulus of food, although Pawlow[3] has demonstrated a psychical secretion before the food reaches the stomach. We are told that at a varying period after the ingestion of nutriment, the time depending upon the amount and quality of food previously taken and the activity of digestion, the organ has finished its task, absorption of certain elements has already taken place, other portions have been passed on to the intestines for further action, and the stomach is found empty, awaiting cause for further activity. At this time it is said to lose its turgid color, becomes paler and quite flaccid, and its surface becomes bathed with more or less of an alkaline solution, forming what is known as the "alkaline tide."

This "alkaline tide" occurs at varying periods of time after the ingestion of food, dependent upon many circumstances: it may begin an hour or so after a very small amount of very digestible food, or it may be delayed four, five, or even many more hours after a very

[3] Pawlow. Cited in Howell. A text book of physiology. Phil., 1906, p. 689.

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heavy or indigestible meal, or with a very weak or sluggish digestion. This should constantly be borne in mind and accounted for in connection with our subject, otherwise mistakes, errors, and harm will surely result. It is only when this "alkaline tide" is perfectly secured and utilized that the method of giving milk here recommended can be successfully carried out.

Remembering then, that the blood is alkaline, the chyle alkaline, and normal milk alkaline, and that the cavity of the stomach is in an alkaline condition at certain times, as well as the intestines, it was believed that if the milk could be presented to the absorbents in an alkaline state, and at a blood temperature, immediate absorption would take place. To accomplish this it must, of course, be introduced quite apart from all solid food, or any substance which could excite gastric secretion. Even the least amount of acidity from a preceding meal, or anything taken into the stomach, would coagulate some of the milk, and so start the whole process of caseation and digestion, and so thereby defeat the desired purpose of direct absorption.

The idea, therefore, is to give the milk alone, pure or diluted one third with boiling water, at the body temperature, just after the alkaline tide has set in, or during its continuance, and to avoid food or any substance which could call forth gastric secretion until after its absorption has been fully accomplished. It is manifest that this plan is entirely opposed to the com-

mon practice of eating a cracker with the milk, or even the addition of an egg, whisky, etc. This I have repeatedly seen done, through ignorance or mistake of directions, and have found that it defeated entirely the benefit which ordinarily accrues from the exactly right procedure.

I have been thus particular in detailing the supposed physiological basis of the plan of taking milk which I advocate because, while it may not accord with some of the accepted views of gastric and intestinal action, there is absolutely no question in regard to the practical bearing of the matter, whatever may be the explanation. Hundreds of patients who cannot take milk in any other way have been following this plan with the greatest benefit, dating back now for twenty years and more, and dozens of physicians of high standing have adopted it as a working theory, and will testify as to the often marvellous results obtained. As to the effects which I have seen produced in very many patients, or heard related, it is difficult to speak without exhibiting too much enthusiasm. There is hardly a single fact in medicine or feature in therapeutics of which I am more confident, or which I utilize with greater certainty and satisfaction.

At the risk of wearying you a little I must dwell for a few moments longer on some practical points. As may be judged from what has been said, patients sometimes fail to grasp the exact method in all its details,

and at first trial the results may not be satisfactory. It repeatedly happens that the milk is taken too soon after a meal, or, even when apparently a long enough interval of time has elapsed, it has happened that, owing to a sluggish digestion, or to some especially indigestible article of food, the milk has come upon the products of a former meal, and not during the *"alkaline tide."* Thus, patients will often take the milk at half-past ten or eleven in the morning, or three or four o'clock in the afternoon, because at that time they experience a faint and "gone" feeling, and mistake the uncomfortable sensation of delayed digestion for hunger. It will, therefore, at times be difficult to be quite sure that the stomach has reached the alkaline condition, at which time only can the milk be taken with advantage.

If the digestion is sluggish it may be necessary to administer pepsin or other digestives freely and repeatedly, in order to secure an empty stomach early enough; occasionally, if there is any doubt as to the alkalinity of the stomach it is well to give one or more full doses of bicarbonate of soda a while before taking the milk, and even to put a little soda into the milk, if there is any question as to its alkalinity.

The temperature of the milk is likewise an element of importance. When taken too cold or too hot the effort of the stomach to bring it to the proper temperature for absorption will often seem to start gastric digestion, and a sensation of pressure and discomfort will

follow, quite different from the agreeable and restful feelings which accompany its proper use. The milk should be gently warmed to 100° F., never boiled, and it is often desirable to effect this by the addition of about one third of boiling water. Cream should never be added, indeed it sometimes happens that too rich milk, as from Jersey cows, disagrees, so that dilution with boiling water renders it more easily absorbed, as laboratory experiments have also shown.

Of course this method of vitalizing the system need not be confined to patients with diseases of the skin, and it has been repeatedly found by many physicians to be of the highest value in those debilitated from many causes, in cases of so-called nervous prostration, etc. In like manner, in treating many patients with what we recognize as different cutaneous maladies, our first thought must be to put the individual in the best possible condition of health; for it must be remembered that in most cases we are primarily to treat the patient and the cause of the trouble, rather than simply the local disease, special medication, internal or local, being used only as may be indicated by the particular skin lesions present.

The nutritive value of this method of reinforcing the dietary may be better understood when we realize that half-a-pint of milk, the amount which should be taken as described, contains from 200 to 225 calories. If, therefore, this amount be taken one hour before *each*

meal we have from 600 to 675 calories, or almost one quarter of the total daily amount required by the system. But the fact is that this is really extra nourishment, which when rightly taken not only does not interfere with the ordinary meals, but frequently increases the appetite and improves the digestion so markedly that it has to be discontinued for fear of overloading the system. But the afternoon dose alone can commonly be continued with advantage for a long time.

Therefore in many cases of disease in the skin it is necessary to recognize the need of changing the nutrition of the patient, by removing harmful elements and adding those which improve nutrition, and from long experience with this most varied and difficult class of patients to handle, I am confident that what I have been saying about the improper and proper use of milk is of vital importance. *Eczema,* when at all generalized or very chronic is often surely a sign of debility of tissue: *Acne,* especially when severe, is practically of the same nature, and is constantly seen to be harmed by the free use of milk with food, so that I invariably include the matter of the proper use of milk in my dietary directions in regard to these cases: the same is true of *urticaria,* and *psoriasis* may also be harmed or benefited thereby: even in such a matter as excessive *loss of hair* there is generally a neurotic or nervous fault, which can be more or less remedied by the plan advised,

and many a case of severe or malignant *syphilis* will yield far better when the matter in question is properly attended to. Many other instances could be cited, such as mothers nursing babies with eczema or other complaints, where a poor breast milk is at the bottom of the trouble; but we must pass on to consider other dietary matters.

Few realize sufficiently the important part which *good and bad cooking* play in health and in the genesis and continuance of many ills, including some of the skin. Time will not allow us to enter this subject at all fully, but it is one which should always receive the attention of the physician, in obstinate cases at least. Repeatedly I have had patients with various eruptions who have gone "into the woods" for health, and on their return have realized that their complaint had been aggravated instead of being benefited by the everlasting use of the frying pan, with hot cakes, soda biscuit, etc.; and I continually have occasion to caution patients living at home in regard to the harm which may come from combinations of foodstuffs in their preparation for the table. A common illustration of mine, to impress on patients the injurious effect of combinations and cooking, on otherwise beneficial food, is in connection with oysters. Some raw oysters could be eaten, with crackers and butter on them without harm; but when the crackers are crushed to powder and the oysters rolled in them, and then the butter melted

and the oysters fried in it, we have in fried oysters a combination which may be far from healthy, if largely indulged in. I also instance that sulphur, charcoal, and saltpetre can each be burned separately in a stove without harm, but when these three are combined into gunpowder such an attempt would be most disastrous. The ingredients of a mince pie or wedding cake are all relatively harmless if eaten alone, but when thus combined, with cooking, the resulting combinations may be most prejudicial to health, and to skin lesions. Further illustrations will occur to each of you, and I need say no more than to urge that you give this matter serious attention and be prepared to strongly and clearly direct your patients with rebellious skin affections in regard to the many errors of diet from cooking which may unconsciously creep in, and so interfere with that perfect metabolism which should be secured in order to overcome such difficulties.

Diet in relation to age and activity also does not receive the consideration it should from physicians, and patients are notoriously careless in regard to it: brief allusion has already been made to Sir Henry Thompson's excellent little book on the subject, which has passed through very many editions, and should be widely known. In earlier years the healthy appetite of a growing child, if properly guided will lead to taking food not only for the production of energy but also for building up its increased frame. In middle life

we have already seen, in a former lecture, that the majority of persons consume more food than is necessary or proper, and thus disease is often engendered; and this danger is still greater with advancing age, when there is no need for growth, and when there is also less activity. The illustration of the steam engine, though threadbare, is always instructive. The locomotive going sixty miles an hour can come to a halt and stand at a station an indefinite length of time and keep up steam, but even the uneducated fireman knows enough to feed the engine quite differently at different times, according to the work to be done. And yet how little regard is paid by mankind to caring for their far more intricate piece of human machinery with which each one is intrusted!

The physician, who knows the animal mechanism, must be the guide and instructor of his relatively ignorant and thoughtless patient in this as in many other matters of health; and this is especially true when called on to treat troubles on the skin, which as we have already seen are frequently but "danger signals" which kind nature often gives as a warning of the infraction of her laws. Only to-day a patient aged forty-eight, whom I first saw with syphilis twenty-two years ago, and had not seen for many years, returned on account of a troublesome balanitis, which, of course, he suspected to be syphilitic. He was now a full-blooded man, rather short, and weighing over 200 pounds, who

drank considerable beer, ate heartily, and exercised little, if any. On careful inquiry I found that the balanitis was increasingly troublesome, and I recognized at once, as I have many times before, that the local trouble was but an expression of increased systemic disturbance, creating an acid secretion beneath the foreskin, whose retention irritated the delicate tissues. His pulse was found to be 92 and hard, and his blood pressure when recumbent 180: he was in a fair way to drop with apoplexy. Now the only "danger signal" which he had heeded, and which led him to consult a doctor, was a very moderate balanitis, and I hold that I should have been culpable if I had prescribed only a lotion, which would probably check the local trouble; for I then would have left him unwarned and unprotected by proper dietary, hygienic, and general treatment, to rush on to the danger which confronted him, and which would have reproduced his balanitis.

No one questions, theoretically, that the diet has much to do with good or bad health, and even with life and death, but few give enough serious attention to diet in its relation to age and activity. And yet those who have charge of prisons have instinctively reduced the diet of prisoners, so that the hardest-working man can instantly stop all activity, and even be kept in solitary confinement indefinitely, on prison fare and yet remain healthy, when he would have serious illness if he were fed exactly as he had been eating before his arrest. It

is strange that so few of us learn by observation and experience.

Closely connected with this subject is that of *vegetarianism* which has been already briefly alluded to. Time does not allow of a full consideration of the subject, about which so much has been said and written, and which has been so widely practiced in many countries and under so many different conditions, with unvarying good results. Vegetarian diet for health is no new proposition, and needs no defense or explanation. All are aware that repeatedly vegetarians have far outstripped meat eaters in athletic contests, while the reverse is almost unknown. The mass of human kind have always subsisted largely or entirely on the products of the ground, and in animal life all work is done on food from the vegetable kingdom. On the other hand the consumption of much meat is of relatively modern date, with some exceptions, and is particularly common in cities, the mass of workers in rural districts subsisting chiefly on vegetarian products.

As the error of too much protein in the diet has been already somewhat discussed in a former lecture, we will not dwell further on our subject, for thus far, to my knowledge, there have been relatively few observations recorded as to the value of a vegetarian diet in diseases of the skin, except in regard to the single disease *psoriasis*. Although this matter will be fully considered in a later lecture I may here repeat what I wrote a while

ago [4] in regard to the value of a strictly vegetarian diet in this disease, which I have now studied in more than two hundred cases for over twenty years. "It may be said without equivocation, that the results of this plan of treatment, as watched by my several associates in years past and by myself, and also by physicians in consultation, and by very many most intelligent patients in private practice, far exceed anything which had been previously secured by the best of treatment at the hands often of the best men in the profession."

In our next lecture we will take up some of the even more distinctly practical applications of diet and hygiene in diseases of the skin, and their application to particular cutaneous maladies.

[4] Bulkley. Report on 140 cases of psoriasis in private practice under a strictly vegetarian diet. Jour. A. M. A., Aug. 26, 1911.

LECTURE IV

LECTURE IV

Diet in Eczema.—Acute eczema, tea, coffee, tobacco.—Rice diet controlling acute eczema and inflammatory cutaneous affections.—Rationale of dietary treatment: duration.—Infantile eczema.—Wheat jelly.—Rationale.—Errors in diet of infants with eczema.—Health of nursing mothers.—Diet in chronic eczema.

GENTLEMEN:—

In the lectures thus far we have dealt mainly with the general elements underlying the principles of diet, which are applicable to many diseased conditions, including those of the skin. We will now proceed to make more specific application of these to some of the cutaneous maladies in which their effect is most striking. The thought arises, however, if the element of diet is so important in the diseases mentioned is it not probable that the same is more or less true in regard to many more cutaneous affections, if not indeed in regard to all, with the exception of a few of purely local origin? May it not be that the rebellious character and proneness to relapse of many of them may depend to a large degree upon faulty nutrition, dependent upon erroneous diet?

Eczema must always come first in any consideration

of diet, not only because of its great relative frequency, one third of all cases, but because it more than other eruption reflects the totality of the life of the individual, and the manner in which the various bodily functions are performed.

Eczema, in its acute as well as in its chronic stages, often exhibits in a remarkable manner the effect of diet, both adversely and favorably, and attention should always be paid to this phase of treatment, more especially when the trouble is either very acute or when it is very rebellious. Fresh attacks of eruption are continually seen to follow gross errors in eating and drinking; and also when the disease is chronic and rebellious careful investigation will almost always discover some faults in diet, and when these are corrected the eruption is seen to yield to appropriate measures, which had previously proved ineffective. A striking instance of this was cited in an earlier lecture, where the persistence in the use of claret wine delayed the cure of eczema of the hands, which responded well to treatment as soon as the wine was stopped. In many a case of chronic eczema there will be found a lowered vitality, and the disease will yield and remain absent only when the vitality is raised by a most carefully regulated diet and hygiene. In some cases the use of tobacco, even in moderation, will be an efficient cause of the eruption, and an excessive consumption of tea and coffee will also have the same effect. Time does not permit our enter-

ing very fully into the many errors of diet which should be rectified in chronic eczema, but enough has been said in previous lectures to show the lines along which investigation should be directed and careful instruction given.

Acute eczema, however, often exhibits in a most marked and surprising degree the beneficial effects of diet, as some of you have witnessed in previous years, in the cases which have been demonstrated in the clinics. I have shown some cases from the wards of the hospital, where there had been no other treatment, internal or local, except the strict diet, which I am about to describe, and you have seen the almost immediate subsidence of the eruption, under this alone. Many of you are, therefore, familiar with my rice diet, of which I had a remarkable personal experience which I detailed some time ago,[1] and one of your number told me the other day of a very interesting circumstance concerning it. He had employed the diet with great success in a number of cases of acute inflammatory diseases of the skin, and in one instance a patient had also *asthma,* which ceased entirely while under this régime: whenever ordinary living was returned to the asthma recurred but ceased again while the rice diet was taken.

The *rationale* of the treatment will explain, I think, why the asthma also was held in check by it. For

[1] Bulkley. Personal experience with a very restricted diet (rice) in acute inflammatory disease of the skin. Med. Record, Jan. 28, 1911.

years my urinalyses have shown me that imperfect or deficient urinary secretion is connected with many cutaneous affections, and that faulty nitrogenous metabolism appears to be at the bottom of very many of them: and asthma frequently presents much the same phenomena, and is often closely allied with certain diseases of the skin.[2]

It occurred to me some years ago that by relieving the liver and kidneys, as far as possible, from the intake of exogenous protein, that is, by excluding, temporarily at least, nitrogenous elements from the diet, the organs would be better able to remove effete nitrogenous material from the system, and so relieve the irritated tissues of their presence. We know that a high acidity of the urine represents to a greater or less degree a lessened alkalescence of the arterial blood, from which it is excreted, and that an excess of uric acid in the urine indicates excessive proteid elements in the system. Now careful volumetric analyses have shown me repeatedly that after a patient has been under this nitrogen-free diet for a while, the urine may even then show an excess of uric acid and urea, which must have been taken up by the blood from the tissues, for these cannot be produced without nitrogenous material: and the clinical results of thus freeing the blood and tissues from effete and harmful matter is often most striking

[2] Bulkley. Asthma as related to Diseases of the Skin. British Medical Journal, Nov. 21, 1885.

in many cases of acute inflammatory skin affections.

Over six years ago a gentleman aged forty-five, was referred to me with an exceedingly severe attack of bullous *erythema multiforme,* of which he had had two similar attacks within the previous three years. He had been eating heavily and drinking champagne, and the attack had begun at four o'clock on the previous afternoon, with a few small papules and much itching. Within the twenty-four hours it had developed violently, and both hands and wrists were the seat of an intense inflammation, with great swelling, and covered with small and large bullæ, more or less hemorrhagic; the intensity of the process seemed to increase even while the case was being studied. He was in real agony from the burning and itching: the pulse was 88, hard and throbbing, and the tongue coated. He was given a laxative and an alkaline diuretic, and was directed to confine his diet exclusively, for a few days, to boiled rice, bread, butter, and water. He was seen five days later and the change was remarkable: the eruption had cooled down at once, and the hands and wrists were then about normal, except for the exfoliation from the bullæ, and he had no discomfort. He remarked on the striking difference in the course of the eruption under this treatment from what he had experienced in the two former attacks. The results observed in my own person on several occasions have been almost as striking.

Since that time I have given exactly the same form of dietary treatment to a very considerable number of patients with various acute inflammatory eruptions, mainly in private practice, with the most gratifying effect, so that I can now almost promise that in a very short time there shall be the greatest relief: and I assure you, gentlemen, that the results which I have secured in many of these cases far exceed anything I had previously obtained without it.

It is, however, in *acute eczema* that this treatment is of greatest value, and by means of it the eruption can often or even generally be arrested almost at once. Commonly it is necessary to continue it only for five days, when a more free diet can be gradually returned to, but in certain instances, this diet may be resumed with advantage several times, and when it is well borne it can be continued even for a long time. Some of you will remember the young woman in the hospital, whom I showed several times at the clinic, who had a pretty general subacute eczema with much deforming arthritis of the hands, the fingers of which at first were twisted sideways and firmly flexed. For three full months she took nothing but rice, bread, butter, and water three times a day, and with some appropriate local and general treatment, the eruption vanished, and you will remember that the day she left the hospital she could move the fingers freely; and she remarked before us, that she could now play the piano. In another patient

in private practice the same diet was continued for a month with the greatest benefit, and another lady, aged forty-five, with very general and severe *psoriasis,* actually persisted voluntarily in this diet for five months, with one or two slight breaks when visiting; this was followed by a most marked improvement to the psoriasis, which nearly disappeared, and with the complete cessation of her rheumatism, which had been very distressing: her weight did not change markedly, it being 185 when first seen and 178¼ at the last visit, and her general health and vigor were surprisingly improved.

It is understood, from what has been said, that in this treatment the patient takes absolutely no other nourishment than the four articles mentioned, rice, bread, butter, and water, and this for the three meals daily. When this diet is first proposed or ordered there is always some remonstrance, and many questions are asked in regard to other articles of food and drink: but experience has taught me that the best results are obtained by adhering strictly and absolutely to the articles mentioned, certainly for some days; and invariably patients have later expressed entire satisfaction with the plan and with the effects produced.

A word may be added in regard to the preparation of and mode of eating the rice, for this has much to do with the success of the treatment. It should be thoroughly cooked, for half an hour or so, with water and not with milk, and generally it is better to have it

dried out somewhat, so as to be flaky, by leaving it uncovered on the fire, for a while, say for twenty minutes, with light stirring with a fork. In my own case, however, I found that sometimes when it was not so dried out, but soft and mushy, I relished it equally well and it agreed with me perfectly.

The rice is to be eaten very slowly, and with a fork, with abundance of butter on it and a little salt: it is to be most thoroughly masticated, in order to secure the full action of the saliva: I commonly tell patients that they are to spend as much or even more time in taking their simple meal, than any of the others do at the table, fully half an hour at least. The bread should be at least twenty-four hours' old, and taken with plenty of butter; it is also to be very well chewed, "fletcherized." Water, hot or cold, but not iced, is to be taken freely, but apart from actual eating, and not to be used to wash down the food in the mouth.

The *rationale* of this diet has already been briefly alluded to and should be kept constantly in mind. While we know less about the metabolism of the carbohydrates and fats than we do about that of protein food, we do know that the waste products of the former are carried off largely by the lungs, and that they are sparers of protein consumption, also that they diminish intestinal putrefaction. In the endeavor to exclude nitrogenous matter from the diet rice was selected as being the poorest of all cereals in protein and with no

purin bodies. Bread was also chosen as having on the average only 6.5 per cent. of protein, about one fifth of which escapes absorption; it contains also on an average 51.2 per cent. of starch, sugar, and dextrin, and some mineral substances. It was directed that the bread should be at least twenty-four hours' old, in order to avoid the well-known delay of digestion from that which is freshly baked. Butter was given freely, both on the rice and bread, in order to supply the requisite calories; for a quarter of a pound, which might be taken in a day, represents a total fuel of 894 calories, or nearly one third of the greatest amount required, and it has but a trace of protein. Water alone was given, freely, several tumblers full daily, as supplying all the needs of the system, without the possible deleterious action of any substances which might be used with it.

It is not claimed that this diet is scientifically the very best that could be devised, but practical experience with it in very many cases for over six years shows that it acts in a remarkably favorable manner in suitable cases, and in no instance has the patient seemed to suffer from the absence of the ordinary ingredients of mixed diet; and although, of course, certain patients have remonstrated at the meagre fare, the ultimate results as regard the eruption have satisfied them of the wisdom of the sacrifice; and in many instances there has been also a surprising improvement in the general well-

being and power for physical and mental work. In many instances, with a return or increase of the eruption from some cause, the patient has voluntarily suggested a return to the rice diet, because of the unquestioned benefit experienced previously.

A word may be added in regard to a return to ordinary food, when the purpose of the restricted rice diet has apparently been accomplished. Sometimes if this is done too suddenly there may be a relapse, as in my own case, where, partly for experimental purposes, I returned at once to a full fare at the end of the first five days of the rice diet. At the end of about a week the itching returned to my hands, and with it the development of vesicles and blebs in the same localities: I then resumed the diet of only rice, bread, butter, and water, with no other treatment, internal or external, and the irritation ceased almost at once, and in three days the vesicles and bullæ had subsided, and I have had the same experience on a third occasion.[3]

My common direction now is that this rice diet shall be continued for five days, and that a mixed diet shall be returned to rather gradually, a moderate meal being taken at noon, and the rice continued morning and night. If all goes well, a light breakfast also is given,

[3] Since these lectures were delivered, I had a fourth attack of my acute eruption on the hands, July 11, 1912, which was again controlled and overcome completely by five days of this diet, without internal or local medication; and still later two threatened attacks of gout were at once arrested and overcome by this means alone, with absolutely no other measures.

some days later, the rice diet being continued for the evening meal for yet a while longer; the breakfast is to consist of a cereal, still with butter, and perhaps eggs and bacon, with very little weak coffee or tea. I find it well in many of these cases to keep the evening meal light for a considerable length of time, as the sleep is much better and less likely to be disturbed by itching.

It is understood, of course, that in laying such great stress upon a dietary treatment in acute eczema and certain other inflammatory affections I do not by any means suggest this to the exclusion of other proper therapeutic measures, internal and external, which I have elsewhere advised, but I only urge it as a most valuable adjuvant which will seldom disappoint.

In connection with this simple dietary in acute eczema in adults I want to bring again to your attention a most valuable dietetic measure in *infantile eczema* which I devised a good many years ago,[4] and which you have often heard me direct mothers how to prepare and administer, for many of the infants who have come to the clinics with eczema: I refer to what I have called *"wheat jelly,"* which I and others have used with the greatest satisfaction for many years, and which is indeed an ideal food, far surpassing the many advertised, artificial aliments on the market.

Bread has long been called "the staff of life," and wheat is recognized as by far the most important of

[4] Bulkley. Infant feeding, etc. Jour. Med. Assn., Oct. 15, 1887.

cereal foods, containing all that is necessary to nourish the human frame, combined in a wonderfully satisfactory manner. Thus, the whole grain has the following analysis, which may vary slightly in different samples from various countries: water, 14.5 per cent., nitrogenous matter 11, fat 1 to 2, starch and sugar 69, cellulose 2.6, and mineral matter 1.7 per cent.

In ordinary flour, from which our white bread and crackers are made, we get only about 70 per cent. of the grain, the endosperm or starchy part alone, while the gluten and mineral elements are not utilized; so that to secure the entire value of wheat we often resort to the various preparations of whole wheat, either coarsely crushed, ground or cut up, or made into whole wheat flour. This is undoubtedly the food which nature intended that man should eat, even as the animal thrives best on the entire oat kernel, as does the Scotchman and others on oatmeal and crushed oats.

The desire then was to find some proper means of giving to the growing infant the entire wheat, for whose developing tissues a considerable proportion of protein and mineral matter is needed, which latter are so remarkably well provided in the whole wheat kernel, combined with carbonaceous matter; it is, of course, necessary to present it in a form for easy assimilation, and after experimentation the plan of preparing it to be mentioned, was finally adopted. It has, of course, long been a custom to add some form of cereal food to

the milk, and for the various preparations on the market it has been claimed that each one is superior to all others, but the experience of all of us has proved the fallacy of all or most of these claims: moreover all of these preparations are relatively expensive, and this is often quite a burden for those in poor or moderate circumstances. The one here proposed has the added advantage of being extremely cheap.

For years it has been advised to use barley water in connection with cow's milk, as rendering the curd less dense, with the supposed slight advantage of an addition of the starchy or other elements of the barley. But dissatisfaction with the results obtained with this in infantile eczema, and the realization that the young child did not thereby obtain all the nutritive elements required for its health and growth, led me to inquire if there was not some way in which the entire wheat could be prepared so that all of its nutritive elements could be readily assimilated: these include not only the starchy matter in the endosperm, but also the vitalized phosphates and salts with the protein of the germ, together with the mineral substances and protein forming the outer layers or bran, which, as we have seen, are excluded from ordinary flour. This, of course, requires proper preparation and cooking, without which the young system, at least, could not assimilate them: hence the details of the preparation about to be described should be followed most accurately.

In order to secure that the whole wheat kernel was utilized I have always insisted that crushed wheat or rolled wheat should be employed: this was formerly easy to be gotten, but of late my patients have found it difficult, some of the finer (and less valuable) preparations having largely taken its place. I am informed that what is known as Pettijohn answers well in making wheat jelly, but I am afraid that this does not represent absolutely all the wheat: possibly shredded wheat biscuits might be better, but I insist that the crushed or rolled wheat shall be obtained, if at all possible.

The wheat jelly is prepared in the following manner: about one cupful of the crushed wheat is placed in a pint or more of cold water, in a china double boiler, and put on the fire at three P. M. This is allowed to boil until seven o'clock, when it is set aside, covered up, until morning. More water is then added, with stirring, and it is again boiled from seven or eight until ten o'clock, more hot water being added as necessary to make a soft mass. This mass is then placed in a very fine sieve and is rubbed through it, with the bowl of a spoon, until no more will pass through, and the resulting wheat jelly is scraped off for use during the day, it being freshly prepared daily. One to three or four teaspoonfuls of this is used at each feeding, according to the age of the child and the requirements of the case: sometimes it proves quite laxative. Prepared in this way it makes a soft, pleasant jelly which mixes readily

with the milk and passes through a feeding nipple: in some instances it is desirable to give it alone, in a spoon, slightly salted, and a little sweetened with sugar of milk.

The *rationale* of the preparation described is not difficult to understand. Soaking first in cold water tends to swell the starch grains, when the slow boiling causes them to be thoroughly cooked, and at the same time more or less extracts the soluble protein and the mineral constituents from the germ and from the crushed bran coating. It being then left to cool all night there is more or less diastasic fermentation, and in the morning the mass is jellified and has a sweetish taste. By again boiling this in the morning for three hours all this process is arrested and a homogeneous jelly is formed, already partly digested, and in a form to be readily assimilated; when this is rubbed through a sieve we have an extract of all the valuable properties of the wheat kernel, only the coarse outer bran coating, from which the nutriment has been extracted, being left on the sieve.

For many years I have employed this wheat jelly in probably hundreds of cases of infants with eczema in private practice and largely among the poorer classes, and have yet to find any reason for changing my views concerning its extreme value; indeed, I know of many mothers who are enthusiastic over the benefits evidently resulting from it, and have used it as a nutriment for

more than one child. At first it seems rather a tedious process, but after a very short time the routine becomes easy, and even among the poorer classes I seldom find any difficulty in having it carried out perfectly. The jelly does not keep well and should always be made fresh every day.

Infantile eczema often exhibits in a most striking manner the ill results from errors of feeding, and many cases can be cured solely by correction of the same, with the slightest amount of local treatment. Too frequent feeding is a common cause of harm in infantile eczema, if not the sole cause, in some cases. The mother will give the breast whenever the child cries, or is restless with itching, thereby aggravating the existing digestive disorder, and consequently the eczema: this should be strenuously resisted, and the breast given not oftener than every two hours or more. This is especially true in regard to artificial feeding, for it has been abundantly shown that cow's milk takes still longer to digest, and feedings should not be at intervals of less than three hours. It should never be forgotten that the infant requires water also occasionally in the intervals of nursing or feeding.

Often in breast fed infants with eczema the error may be in the quality of the milk, from a faulty diet or condition of the mother. Ale, porter, beer, wine, tea, and chocolate are often taken in order to increase the flow of milk. These are harmful to the nursing

infant and should certainly be interdicted; gruels of various kinds may be employed, but the best food from which to form milk is milk, drank freely on the principle and method described in the last lecture. The mother should also take milk at night every time the baby nurses.

The health of the nursing mother must also be very carefully looked into, for constantly dyspepsia, constipation, or pure debility in her can be the cause of eczema in the nursing baby. It must be remembered, however, that these or other errors are not always apparent upon casual observation, but frequently need to be sought for and corrected in the nursing mother, if satisfactory results are to be looked for in the eczematous infant.

After the period of nursing is over great care is often necessary in order that the diet of the eczematous child be correct. It is to be remembered that servants, to whom the care of children is often too largely committed, are commonly taken from the plainer walks of life and are apt to be totally ignorant of the principles of diet, life, and health. Unless the matter is carefully looked into it will frequently be found that even children at the breast, or those who are bottle fed, are also given articles from the table of adults, and especially that they often get a little tea or coffee, of which children are universally fond. Even among young eczematous patients in the easier walks of life

I have frequently found indulgence in the most improper mode of living, candy, chocolate, cakes, etc., and many most indigestible articles being given more or less freely: and I have known very intelligent persons to feed their children affected with eczema in a most outrageous and inexcusable manner, quite unchecked by their former medical adviser.

It is very difficult to go into further detail in regard to the dietetic treatment of older patients with chronic eczema, which may often tax the thought and ingenuity of the physician very greatly, in order to learn just where the error of nutrition lies, and to correct it; each case, therefore, has to be studied by itself on the principles laid down in this and former lectures. Eczema is essentially a disease of debility of some kind, in most cases, and one must be careful not to overdo the matter of food, but to be sure that a correct and sufficient number of calories are taken in digestible form. I have seen eczema patients who by the successive restrictions of different physicians had been reduced to a very low state of vitality; and I have also seen many others who have been so stuffed that they were wholly unable to properly assimilate the nutritive elements required, and the eruption was thereby kept excited.

Each case will therefore have to be studied, as the diet naturally will have to vary according to whether the patient is gouty, neurotic, or strumous, or whether

there is plethora or anæmia. From what has been said in former lectures, however, it may be understood that many eczematous patients will oftener do better under a more or less complete vegetarian diet than under one containing much nitrogenous matter. As has been already stated, alcohol in any form whatever is commonly contraindicated in eczema.

LECTURE V

LECTURE V.

Acne, dietary causations, errors in diet.—Acne juvenilis, less a matter of age than of erroneous diet.—Rapid eating, and imperfect mastication.—Milk with food harmful.—Acne rosacea, harmfulness of alcoholic and fermented drinks.—Psoriasis, effect of diet.—Results from vegetarian diet.—Error exploded in regard to Passavant's so-called meat diet.—Explanation of basis for vegetarian diet.—Duration of the same.—Urticaria, Acute lichen planus, Furunculosis, Mycosis fungoides, Epithelioma, Alopecia, Syphilis, as influenced by diet.

GENTLEMEN:—

In the last lecture we discussed the dietetic treatment of *eczema*, which was found to be most important, for the reason, it was remarked, that eczema more than any other eruption reflects the totality of the life of the individual, and the manner in which the various bodily functions are performed.

Almost the same may be said of *acne* which, in so many cases, seems to depend largely upon internal causes, and to be influenced so very greatly by diet, whether for bad or good. This matter has been referred to in earlier lectures and need not be dwelt upon very largely here. But in speaking of the dietetic

treatment of acne, I must remind you that close observation will continually note the occurrence of fresh outbreaks or separate lesions from many indiscretions in diet, which intelligent patients will recognize and acknowledge, when closely questioned. Not only will this occur after general overeating, but special articles, such as sweets, chocolate, pastry, richly fried articles, etc., always bring out more or less of a fresh eruption, in certain individuals whenever they are indulged in. I have patients in whom nuts will invariably produce a new crop of acne, and one intelligent man of 30 always has a fresh eruption whenever he eats almost any kind of fruit.

Of course, most patients, even those who recognize the etiological relation between acne lesions and dietary indulgence will want to be cured of the eruption without any restrictions in diet, but this is impossible. Much can be done, it is true, by very active local medication, and some internal measures will to a certain degree control the activity of the lesions without much attention to diet and hygiene; but the well-known obstinacy of the eruption and its proneness to recur in many cases can only be met by a rigid adherence to the dietary principles here laid down.

Acne is often regarded as a natural accompaniment of youth, as is indicated by the name sometimes given to one form of it, *acne juvenilis*. But the large number of young persons who escape any great manifes-

tation of acne, and its continuance often even well into life, together with the occurrence of the indurated and rosaceous varieties in much later years, which latter are so frequently traceable very clearly to errors in eating and drinking, all lead one to question as to how far the ordinary acne of young persons belongs necessarily to their age; or whether, when occurring at that time it is not rather due to dietary errors; for we know that it is just at this period, during adolescence, that many are particularly careless in regard to eating and drinking, and are most prone to gratify the taste at the expense of the health, or regardless of it.

However this may be, I am constantly discovering errors in the diet of these young patients, which when corrected are followed by the yielding of an eruption which had previously proved resistant to good treatment at other hands; and again I see cases relapsing when, from absence and carelessness, the dietary restrictions have been neglected, which again yield as soon as there was a proper control of the diet and hygiene.

One of the commonest errors to find in young people with acne is that of rapid eating and improper mastication, and all that was said in an earlier lecture in connection with Fletcherism is peculiarly applicable in this disease; the habit of bolting the food with little chewing, and washing it down with copious draughts of liquid, seems to be well-nigh universal, especially in

the young, and few deny it if closely questioned. Also the habit of eating between meals, and then frequently very indigestible substances, is very common, as likewise indulgence in soda-water, ice cream, etc. All this may seem commonplace and hardly worthy of scientific notice, but I assure you that wide experience in managing large numbers of cases of acne in young persons, in private practice, has led me to attach very much importance to all these simple details.

Mention has already been made that milk, taken in connection with food is harmful in acne, and yet it is rare to find acne patients who do not thus indulge in it until checked; the idea being so common that they require extra nourishment, and that milk is nourishing, which is true, when it can be properly assimilated. While it is a fact that in many young persons acne is a sign of debility, it is also true that most commonly the debility is due to faulty metabolism, which disturbance milk taken with food only increases. On the other hand under proper general treatment and when the system is in a right condition, milk given alone warm, one hour before eating, in the manner detailed in a previous lecture often proves of the most signal advantage. Iced water, both by provoking gastric catarrh and by flushing the face will often keep up or aggravate an acne.

In acne of older persons the effect of diet is often shown very strikingly, as they will state or acknowl-

edge, and the trouble cannot be permanently removed unless this is attended to. The conditions are very much the same as have been already mentioned, with certain additions. In some cases the custom of taking afternoon tea, with its accompaniments, will suffice to keep up the eruption until it is abandoned, and continually one may learn that hot or warm drinks will cause the face to flush and will increase the difficulty. Many patients say that soup always increases the eruption, especially the richer, cream, bisque, and gravy soups, and they will state that they themselves have learned to avoid them.

But it is especially in regard to the use of alcoholic drinks, even in moderation, that one sees the injurious effects of dietary errors in acne in older years, and when this is the case treatment is well-nigh futile while the habit is persisted in. One of the worst cases of *acne rosacea* which I have ever seen was in the person of an importer of Moselle wine, who could hardly understand that the moderate use of his supposedly pure wine could produce such results; yet so it was, and he did not improve until he ceased taking it.

Also ale, and even the weaker beers frequently produce an indurated form of acne, which one can almost diagnose as thus induced, while the acne rosacea of hard drinkers is well known to all. Many who use wine only occasionally will recognize that each indulgence is followed by an increase of rosaceous acne,

although they may not have self-control enough to refrain until so directed by the physician.

Acne in its various forms may, therefore, be considered to be perhaps the most important disease of the skin in which attention should be paid to dietary matters; and yet in very few of the cases that I see has the matter ever been previously considered and regulated by those who have had charge of the patient, whether general practitioners or those devoting special attention to diseases of the skin.

Psoriasis, as I have repeatedly shown,[1] exhibits in a very marked degree the ill effect of erroneous diet in inducing and aggravating the eruption, as also the beneficial or even curative effect of one directed along certain proper lines, about to be detailed.

Any one who has watched many patients with psoriasis in private practice over some years must have been impressed with the varying amount and character of the eruption present at different periods, and must have wondered at the reason; for to casual observation these patients appear mostly to be in good health, and relapses or exacerbations do not ordinarily seem to be connected in a very clear way with any great departure from soundness of body.

There is, of course, no reasonable indication that the disease is grossly parasitic, or that these variable con-

[1] Bulkley. Vegetarian diet in psoriasis, etc. Jour. Amer. Med. Assn,, Nov. 17, 1906. Feb. 22, 1908. Aug. 26, 1911.

ditions are due solely to any microbic cause, internal or external. Climate and the seasons are often recognized as affecting the appearance of the eruption, which frequently improves markedly and may even disappear in the summer, reappearing or getting worse in the autumn and winter.

But, to my thinking, there is an underlying cause of the disease which in a measure, at least, explains why the eruption should vary so greatly from time to time, and should persist so rebelliously in a large majority of cases. Mention was made that the eruption is apt to improve in summer, and it is known that the disease is rare or altogether absent in certain hot climates. During an extensive trip through the various countries of the Far East,[2] although I visited very many hospitals and dispensaries and saw multitudes of patients with different maladies, and although I inquired diligently, I found no psoriasis; and my son, who has been a medical missionary in Siam over seven years, recently sent me a photograph of the first patient he had seen with this eruption, a native; the disease seems to be almost unknown in the warm regions of the East.

Now I explain this improvement of the eruption in summer, and the absence of it in warm climates, not so much on account of the higher temperature and the freer secretion from the skin, as from the nature of the

[2] Bulkley. Notes on Certain Diseases of the skin observed in the Far East. Jour. Cutan. Dis., Jan., 1910.

diet in those districts, and in warm weather. We all know that in summer less meat is eaten and more of the cereals, succulent vegetables, and fruits; while in the warm countries of the East the food of the natives is almost entirely vegetarian; in many of them, moreover, it consists mainly of rice, which I believe accounts for the absence of psoriasis and possibly for the rarity of epithelioma and cancer. The natural suggestion from such observations would be that it would be well to test the matter, in regard to psoriasis at least, and see if a vegetarian diet had any effect on the disease; and this has been done with very definite conclusions.

Last year I reported to the American Medical Association,[3] my observation on 140 patients with psoriasis seen in private practice, during the previous two years, who had been placed on an absolutely vegetarian diet, and in regard to whom careful notes had been preserved at each visit. Of these cases some were of too recent a date to afford any satisfactory judgment, and there were some patients who were unfaithful to treatment, and some who were lost sight of; there were, however, 81 who were recorded as strictly faithful to treatment. There were 32 in whom the eruption was recorded as gone, and 60 in whom it was improved.

It may be properly asked if the improvement in the

[3] Bulkley. Report on 140 recent cases of psoriasis, etc. Journ. Med. Assn., Aug. 26, 1911.

eruption or its disappearance was not due to some other measures employed, internal or external. In the large majority of cases there was, of course, use made of any and all remedies which could influence the eruption for good; but it may be said unqualifiedly that by the addition of this dietary treatment the results, as watched by my several assistants in years past and myself, also by physicians in consultation, and by very many most intelligent patients in private practice, far exceed anything which had been previously secured by the best of treatment either by myself or at the hands often of the best men in the profession; and many observant patients have said to me, "You may quote me as a striking instance of the unquestionable value of this dietary element of treatment."

But in order to test the matter still more perfectly there have been at least half a dozen patients to whom, for a period, the absolutely vegetarian diet has been given alone, with no internal or external treatment; these were mostly inveterate cases, and some of the patients were very skeptic, owing to long years of unsuccessful treatment elsewhere. After having the matter fully explained, these patients were glad to make the test, and have watched with the greatest interest as certain lesions have ceased to scale, then faded, and finally disappeared entirely, leaving only a stain, which ultimately ceased to exist, under an absolutely strict vegetarian diet alone. This has been verified time and

again by my recent office associate, Dr. Bechet, and others.

It is true, however, that there will sometimes be a recrudescence of the eruption, to a greater or less extent, even while the patient is supposed to be under a rigid vegetarian diet; but I have never seen an outbreak which was nearly as severe or persistent as previous ones had been; the lesions will be small and much less pronounced, and the eruption will commonly yield more readily to appropriate active treatment, dietary and medicinal, than had been the case in times past.

This recurrence of the eruption may be accounted for in several ways, and does not at all weaken the argument for a vegetarian diet in psoriasis.

First, it is always possible that the patient may not have adhered to the restricted diet as absolutely as reported.

Second, the details of an exactly proper vegetarian diet have not been as yet all worked out, and it is quite possible that some article of the vegetable kingdom may lead to the faulty metabolism which is at the bottom of psoriasis; we saw in a previous lecture that beans, peas, and lentils contained a large percentage of protein, and I had one very intelligent gentleman who reported that he had some lesions whenever he ate largely of them.

Third, there may be such a wrong action of some of the internal organs that even a purely vegetarian diet does not secure a perfect blood condition.

Fourth, there may be other causes also at work, as yet unrecognized, which favor the eruption.

Many of these cases have been watched also in another way, which further proves the value of the vegetarian diet. Repeatedly it has occurred that the patient for one reason or another, has broken away from the rigid rules given, and on returning to a free meat eating has had a recurrence or increase of the eruption. Such a one has often returned penitently and has gladly resumed the dietetic treatment, with a promise not again to fall from grace, and the beneficial results have shortly become apparent.

The question therefore arises as to the length of time during which it is necessary to subsist solely on a vegetarian diet in order to control the disease. I am accustomed to tell my patients that it may be necessary to continue this course indefinitely; for, if a faulty nitrogenous metabolism and excretion is at the bottom of the eruption, as it seems to be, the same conditions may recur whenever the intake of proteins exceeds the power of the system to handle them. In my analysis of the cases of psoriasis referred to I found that 21 had continued the diet from 6 months to one year, 11 from one to two years, and a number had taken it 2, 3, 4, 5, and even up to 10 and 20 years. I would not say that all these individuals were perfectly faithful to the diet, but a large number of them claimed that they had adhered to it, and they and I felt that the results

quite justified the means. I might add that very many of them were so well satisfied with their well being, and increased ability to work, mentally and physically, that they would on no account return to their former mode of life, nor even to a moderate mixed diet: many patients who have thus become vegetarians have said to me that they would not on any account touch animal food.

On a number of occasions when I have presented the subject of the vegetarian diet in psoriasis in public, some one has always questioned or opposed its value by referring to the constantly quoted single report of a certain Dr. Passavant, who asserted that psoriasis could be cured by an *exclusively meat* diet. Although I have exploded this fallacy elsewhere,[4] I feel that I must briefly state the facts again, in order that the contention may be set at rest; for the text books all refer to this single report published forty-five years ago, and leave the inference that the suggestion may be of value, whereas it is worse than useless.

The facts are briefly these. In 1867 Dr. Gustave Passavant, of Frankfort, Germany, in an open letter to Prof. F. Von Hebra,[5] reported that having suffered for twenty-five years from psoriasis he was soon free from it after entering on an almost absolute meat diet, including soup, pork, fats, cod-liver oil, milk, and bacon,

[4] Bulkley. Jour. Amer. Med. Assn., Aug. 26, 1911.
[5] Passavant, G. Archiv für Heilk., 1867, p. 251.

and practically no vegetables or bread; he advised also against beer, coffee and tea, and spices. He cited one case of squamous eczema also relieved by this treatment.

There are a number of points in connection with this brief report which quite invalidate any importance which might possibly be attached to it. 1, Dr. Passavant does not mention if possibly he used any other treatment, internal or external, in connection with the diet, which may have accounted for the improvement; 2, then, he does not state if the improvement in his condition lasted any length of time, or if he had any return of the eruption, either under the diet or without it; 3, he does not mention the season of the year when he improved, for we know that psoriasis will sometimes disappear spontaneously with the changing season; and, finally, 4, on analyzing the diet mentioned, it is seen *not* to be a meat diet, as he especially mentions pork, fats, cod-liver oil, milk, and bacon; it was, therefore, really a largely non-nitrogenous, fatty diet, as these articles contain very little protein substance. He mentions one single other case, and that of eczema, which was benefited by his régime. So all his talk about meat diet benefiting psoriasis rests on one single case, and that erroneously interpreted!

On the other hand, Professor Hebra,[6] to whom Dr. Passavant addressed his open letter, ridiculed the claim

[6] Hebra. Lehrbuch für Hautkrankheiten, 1874, I, 352.

made, some years after its publication, and as far as I can find, there is little if any corroboration in literature of the correctness of the claim of Passavant, that psoriasis can be cured by meat diet. Surely if there were any truth in it, some proof would be forthcoming in the forty-five years which have elapsed since its publication. On the other hand there are abundant, though brief, allusions in literature to the injurious effect of excessive meat eating in psoriasis. My experience dating back, some of it twenty-five and more years, and especially the 140 recent cases which have been particularly studied recently, shows conclusively that not only does a meat diet increase psoriasis, but that an absolutely vegetarian diet is of the very greatest benefit in this disease; also that in certain cases it is capable alone of causing the disappearance of a long standing eruption, without the use of any external or internal medication whatever. It is sincerely to be hoped, therefore, that the senseless reference to the Passavant incident will now disappear from our text books and literature, as it only leads to confusion and misjudgment.

A few words may be added as to the physiopathological basis for a vegetarian diet in psoriasis, and some practical points in regard to carrying it out.

In the first lecture we saw that perverted metabolism, and hence disordered nutrition, had been shown to have very much to do with the production and continu-

ance of a number of diseases, including some of those affecting the skin; this may result from an erroneous intake of food and drink, or from the faulty disposition of their elements by the various organs of the system; thus, we know that gout can come from the free use of certain wines, and likewise that a deficient excretion of urea precedes the development of fresh outbursts of *dermatitis herpetiformis,* while an excess of or an imperfect caring for saccharine substances, resulting in glycosuria, accompanies *diabetic xanthoma.*

In the same way a failure of the system to properly carry out nitrogenous metabolism, and the presence of an excessive amount of protein in the diet and system, is found to be associated with psoriasis in such a manner as to indicate a causal relation between the two. This nitrogenous derangement is constantly shown in the urine, and the average of a very large number of very carefully made volumetric analyses in private practice showed deviations from the normal, which were of the utmost importance; thus, the average specific gravity of all specimens was 1.026, while 1.030 to 1.040, with no sugar, was not uncommon; the acidity was invariably high, often three or more times the normal, uric acid and urates abounding, and the urea commonly increased, even to double the normal amount, or more.

It is realized, of course, that the relative and absolute amount of nitrogen in the urine varies directly with

the amount of protein taken as food, which is hydrolyzed during digestion and absorption into simpler amido-acids. These amido bodies by further hydrolysis and oxidation may be converted, so far as their nitrogen is concerned, into ammonia compounds, and may then be eliminated at once as urea by the liver, without entering into tissue formation at all.[7]

The purin bodies, uric acid, xanthin, hypoxanthin, are the end product, as far as the nitrogen is concerned, of the physiological oxidation of the nuclein, and give a measure of the extent of metabolism in the cell nuclei of the food and of the body.

The remarkable studies by Chalmers Watson and others[8] in regard to the effect of an excessive meat diet on growth and reproduction, and on the structure of many organs and tissues of the body, are most interesting and edifying in this connection. Plates are given showing the microscopic structure of healthy control animals on a normal diet, and of those of the same litter when given only meat, and the difference is most striking. It may be instructive to quote the statements in regard to the influence of an excessive meat diet on the skin of rats.

"1. The stratum corneum is less compact, and more evidently in detachable layers.

[7] Howell. A text book of Physiology. Phil., 1906, p. 755.

[8] Watson, Chalmers. Food and feeding in health and disease. New York, 1912. Appendix, pp. 553–615.

"2. The stratum granulosum shows no definite changes.

"3. The stratum Malphighii shows in the normal bread-and-milk-fed rats a gradual condensation and consequent thinning as age advances; in the meat-fed rats the layers remain more or less swollen, the cells showing greater vacuolation and lessened staining capacity.

"4. The cutis vera shows a more cellular structure in all the meat-fed rats.

"5. The hair is distinctly less advanced in development in the meat-fed subjects." All of which is not without its bearing upon *psoriasis*. The studies on the effect of the meat diet upon the structure and action of the kidneys are also most illuminating.

It is recognized that the kidneys act as a kind of a balance wheel, striving to keep the arterial blood which circulates freely through them in a state of physiological, nitrogenous equilibrium. When, therefore, in ordinary health, we find the urea and uric acid in excess, as also the other solid constituents of the urine increased, the kidneys being healthy, it is certain that they find a surplus of nitrogenous and other matter which the system cannot utilize, whose circulation through the blood produces various results in the tissues, which we call disease; and one of these is psoriasis. Why it takes this particular form is rather

beyond our present inquiry, but it is more than probable that the individual lesions are the direct result of one or more of the micro-organisms found on every skin, which take on activity when the skin is thus rendered in a suitable condition.

It is to be remembered, however, that the actual state of the urine is not always a true indication of the hypernitrogenous state of the system, for it is well known that at times there may be more or less retention of various substances in the liver and tissues, as for instance in connection with the uratic deposits in gout; and the failure of the kidney to excrete a proper amount of nitrogenous matter may sometimes be quite as significant as when there is an excess of solid matter in the urine.

A few words may be added in regard to the practical working out of the problem of a vegetarian diet, for by this latter is understood the absolute restriction of the food to the products of the ground, with the complete exclusion of all else except butter, which is almost a pure hydrocarbon.

When this diet is first proposed many patients hesitate, and generally remonstrate, not realizing that in fact the food of every one is very largely from the vegetable kingdom; when, however, one has given some thought to the subject, and after a little experience, it is readily found that there is a vast variety of non-nitrogenous articles from which a very comfortable menu can be provided; as is evidenced by the many

vegetarian restaurants here, and especially in England, and also by many of the health sanitaria where this system of living is practiced; a dietary will be given in the Appendix. The subject of an exclusive vegetable diet in psoriasis is too great for us to cover fully, and we will only consider for a moment some of the exceptions to be made, or articles belonging to the vegetable kingdom to be guarded against.

Mention has already been made of the fact that certain articles, such as beans, peas, and lentils, contain a large percentage of protein; thus, prepared pea flour has 27.98 per cent., and soy bean flour has 39.5 per cent. of protein, while roast beef contains only 34.23 per cent. of nitrogenous matter, and some kinds of flesh have as low as 20 per cent., which is exceeded by that in all of the pulses mentioned. Nuts also, contain much nitrogen, and cannot be taken in any quantity.

Alcohol in any form, even the lightest beer, is prejudicial in psoriasis and in some instances I have found better results when I excluded also coffee, cocoa, and chocolate, which contain xanthin, allowing only very weak tea, and water in abundance. Milk is not allowed as a beverage, but may sometimes be taken with advantage alone, warm, an hour before eating, on the plan already detailed. Cereals are to be eaten slowly with a fork, with a little butter and salt, and pastry and richly fried articles had better be avoided, although a little fat bacon may be taken occasionally:

butter is the only non-vegetarian substance which is allowed, and this may be taken freely.

In regard to the ultimate results, the question may be asked, whether psoriasis is curable under a strictly vegetarian diet, with other proper treatment. This cannot be answered definitely yet, but from watching results for over twenty years I believe it to be possible, in a considerable share of cases; although for this it may be necessary to continue the diet perfectly for an indefinite length of time.

If diet is of such striking importance in the diseases which have been mentioned it stands to reason that it must be of significance in other affections of the skin, and this I have found to be the case. Time forbids our entering fully into the details regarding many of them, but brief mention must be made of some in which I have seen striking results.

When speaking in a former lecture of an extremely rigid vegetarian diet, which I have called the rice diet, I mentioned a case of bullous *erythema multiforme* for which I had first devised it. Since that time I have used this for a short period in a number of other similar cases, with the most distinct advantage, it seeming to arrest almost at once the metabolic disturbance upon which the eruption depends, with, of course, other proper treatment; the cases, however, certainly yielded in a manner quite different from that commonly observed under the same measures alone. In certain cases

of *pemphigus* I have also seen it have a most satisfactory influence, as also in *dermatitis herpetiformis:* in one patient with the latter trouble, who was under ordinary vegetarian diet, there was repeatedly a great exaggeration of the itching with the production of vesico-bullae whenever any nitrogenous food was taken, and the greatest relief was obtained at once when the rice diet was taken for a few days, before resuming the ordinary vegetarian diet. In several cases of this latter eruption a strict vegetarian diet, over a very considerable period, has proved of the most signal benefit.

Urticaria, when acute, is certainly an eruption which demonstrates clearly a dietetic etiology, but unfortunately in many chronic cases it is by no means easy to direct a diet which will suffice to control the disease. In acute cases the absolute withdrawal of all food for a while, giving only water, is of great advantage, and in some chronic cases the rice diet will be of much service in making an impression on the disease, following it by a vegetarian diet. But with some patients the matter of the diet in chronic urticaria is a perplexing one and the ingenuity of the physician will be taxed to the utmost to find and rectify the dietary error: this must, of course, be done on the principles discussed in the earlier lectures.

Acute *lichen planus,* which may be very distressing when it is acute and very general, has sometimes ex-

hibited in a remarkable manner the beneficial effect of the rice diet, and later a purely vegetarian diet has aided greatly in overcoming the disease.

Furunculosis, when it is accompanied by glycosuria, is, of course, properly subject to dietetic management, but even when sugar is not present in the urine it may be equally necessary to regulate the diet. In young college men especially one frequently sees cases which have lasted a long time, with continued or repeated attacks of boils, where the diet is most outrageous, and the process can be wholly checked only by careful dietary regulations: these cannot be detailed here, but are to be carried out on the principles already developed.

It may seem strange to make the claim, but in one instance of well-attested *mycosis fungoides* in private practice, which has now been carefully watched for nearly two-and-a-half years, the arrest and almost complete disappearance of the lesions has seemed to be favored, if not largely affected by the absolutely strict vegetarian diet which has been maintained during all this time [9]: I am confident also that in certain cases of *epithelioma* the progress of the disease has been in a measure checked and the cure favored by the strict, generally vegetarian, diet which has been enforced:

[9] Since these lectures were delivered there has been in the Hospital another most severe and pronounced case, in which the tumors have shrunken in a remarkable manner, and much of the eruption faded, under an absolutely strict vegetarian diet.

certain it is that indulgence in alcoholics favors the increase of the disease, which, when at all extensive will become congested and often increase more rapidly under its influence, and again cool down and improve more readily with x-rays, or other treatment, under total abstinence. Still more strange it may seem to speak to you in regard to the value of a dietary regulation in ordinary *alopecia,* but long experience has convinced me that in many cases this is essential in order to secure the best results; and I am also confident that even unexpected good results can often be obtained when this is added to a previous proper internal and local treatment, which had been previously ineffective. We recognize perfectly that the child grows its hair *de novo* from having proper food, and the veterinarian also recognizes defective nutrition in animals by changes in, or loss of, hair; and it is assuredly so in adult human beings. The hour is too late to develop this interesting subject fully, and I can only throw out the hint that in falling of the hair you should study the case carefully, and, in the light of all that has been said, improve the nutrition by exactly proper attention to the diet, including the proper use of milk and rest, and I am sure that the results will sometimes surprise you.

Finally, even in such a disease as *syphilis* the matter of diet should never be neglected. In an earlier lecture I dwelt upon the baneful effect of alcoholics, even the mildest and in the slightest amount, in this disease, and

I assure you that in many cases other dietary elements will often be of the greatest importance. Overfeeding can increase the evil effects of the poison, while under nutrition can be almost as prejudicial. Remember, in treating syphilis, that you are dealing with a human organism into which a poison has entered, and the proper treatment does not simply consist in introducing mercury or iodide of potassium, or both, or even salvarsan, until the symptoms yield, but that the system must be cared for in every particular, in order that it may more readily overcome the poison and not be too seriously influenced thereby. With this thought I must close, begging you to study the syphilitic patient and apply good medical common sense in regulating every feature of his life, including the diet and hygiene, if you would really be of the highest service.

One single word must be added, merely to mention what you probably all realize, that in all that I have said about diet in various diseases, I am only speaking rather strongly in regard to one special side of therapeutics. You know that I am a great believer in proper treatment, internal and external, and I trust that the emphasis that I have placed upon dietetics will not lead any of you to have any less confidence in, nor that it will cause you in any way to neglect the fullest general and local medication which may be necessary to overcome each particular disease of the skin.

LECTURE VI

LECTURE VI

Importance of proper hygiene in diseases of the skin:—Regularity of life.—Importance of regular and effective action of the bowels.—Sleep in relation to diseases of the skin.—Rest, exercise, massage, occupation, atmospheric conditions.—Clothing, Bathing, Turkish and Russian Baths, Sulphur and Mercurial Baths, Sea Bathing, effect on diseases of the Skin.—Mineral Springs, errors in regard to, and relative uselessness of.—Classified list of Mineral Springs, with indication for their use.

GENTLEMEN:—

In our lectures thus far we have seen that there are other agencies of importance and value in the treatment of many cutaneous diseases besides the local and internal remedies commonly employed, and that *diet* may have the greatest influence for good or bad in connection with them. We will now consider the part which *hygiene* often plays, in the practice of dermatology. This may be considered under two heads, first, as related to the *individual,* and second as related to *others.*

First, Hygiene as related to the individual.

REGULARITY OF LIFE. Order is one of nature's greatest laws, and regularity of life is one of the greatest laws

of health. While nature moves on with a perfect periodicity in day and night, the changing seasons, etc., modern civilization has so disturbed life, especially in the cities, that irregularity of life seems to be the rule, rather than the exception, in many matters; and this fact is often of vital importance in connection with many diseases of the skin. This statement, at first sight, may not seem of great significance, but when we consider that each and every element that can conduce to the health or ill health of the individual may have a direct effect on the skin, it is readily seen that this and other matters relating to hygiene need to be considered in connection with some of its diseases, at least, if the best results of treatment are to be expected. I often have occasion to remind patients of the perfect regularity of life demanded of athletes, and even of race horses, and also of the carefully ordered life required at West Point and Annapolis, for those who are to serve the country in the Army and Navy.

Mention has already been made of the importance of regularity in regard to eating, and when this is looked into it will often be found that the very greatest errors have often long existed, even in those suffering most severely from some skin affections, which may have been rebellious for that very reason.

Regularity in the *action of the bowels* is always of prime importance in connection with many diseases of the skin, and yet careful inquiry will continually dis-

cover the utmost carelessness in regard to this, both among the young and old. Undoubtedly the natural and normal time for emptying the lower bowel is in the morning. After the wear and tear of the day the results of catabolism are slowly discharged into the intestinal canal, and these, together with the refuse of the food, have been moved on through the colon during sleep, and are ready to be discharged in the morning. With the entrance of fresh food at breakfast, peristaltic action begins throughout the intestine, with absorption, and under perfectly normal conditions the rectum seeks to void its contents at that time. If this is neglected then the inclination is apt to be lost, and there may be a delay for any length of time, perhaps until evening; or possibly, if the call is again neglected, there may be obstipation for some days, solely from willful or careless rectal atony.

The older medical writers laid much greater stress upon fecal retention than is common today, but no one who has carefully studied patients with chronic ailments over long periods of time can fail to be struck with the evil effects of constipation, or the beneficial results from proper and free action of the intestinal canal: and this is especially true in regard to many diseases of the skin. The pale, often greenish, hue of the skin in many who might be called chlorotics, with a dull, often slightly jaundiced color of the sclerotics, the muddy, greasy, acne-studded faces of many young

men and women, and other wrong conditions of the skin, are all frequently due largely, if not wholly, to carelessness in regard to emptying the bowels at the proper time: and the way in which these often clear up under proper treatment and guidance are surprising and gratifying.

The reason of this is not difficult to recognize. We all know that absorption of liquids can and does take place from the rectum, and that not only can patients be long fed and nourished by rectal injections, but that they can be anæsthetized and made drunk through the rectum. When, therefore, fecal matter is long retained in the lower bowel there is a certain amount of absorption, and stercoremia results, producing the conditions already referred to. If the thesis which we have maintained throughout these lectures is correct, namely, that the character of the fluid circulating through the capillaries and lymphatics has much to do with the integrity of the tissues of the body, and with the skin and many of its diseases, it is easy to see that a perfectly regular habit of emptying the bowel daily after breakfast may often be an important factor in regard to the latter. I make it a point to insist on this with my patients, young and old, commonly inquiring into the intestinal action at each visit, and administering such remedies and giving such instruction as may be proper and necessary to secure a morning defecation; these should be continued until a regular, normal habit

is established by personal attention to the matter, without medication if possible.

I trust that you will pardon my long discussion of this subject, which may seem very trite and stale to some of you, but experience has taught me that very many patients are constantly neglectful in the matter referred to, and that as a rule the physicians who have previously seen the cases have not given it proper attention.

Sleep. Regularity in the hours of sleep is very important in connection with many patients with cutaneous diseases, and sufficient, refreshing sleep, as we all know, is essential to perfect health. This is a matter which should always receive careful attention, and one which I make a great deal of, even at every visit. While many are regular and systematic in their bed hours, many more are most irregular and careless, and unless this matter is carefully inquired into and sternly corrected by the physician, even at frequent intervals, errors will creep in which certainly complicate some obstinate cases of skin affections. To indicate some of the features connected with the relation of sleep to certain diseases of the skin, I would like to present the conclusions which I reached in a rather extensive article on the subject.[1]

1. Sleep is an exceedingly important factor to con-

[1] Bulkley. Sleep in its relation to diseases of the Skin. Med. Record, Nov. 20, 1895.

sider in connection with many diseases of the skin, disorders of sleep occurring both as a contributing cause and as an effect of the same.

2. Disorders of sleep occurring in patients with diseases of the skin may arise from many different conditions: and the six principal causes may be classed as, (*a*) digestive; (*b*) toxic; (*c*) circulatory; (*d*) nervous (direct or reflex); (*e*) psychic and (*f*) cutaneous.

3. These causes of disturbances of sleep should be searched for and relieved, because of the injury resulting from imperfect sleep, in producing or aggravating many diseases of the skin.

4. In cases where the sleep disturbance is caused by the disease of the skin, the effort should be made to get relief to the insomnia by proper internal and external treatment of the skin affection, before resorting to hypnotics: attention to details is often very necessary to secure this end.

5. Preparations of opium may be resorted to when the disturbance of sleep is caused by pain connected with the skin disease, but these are useless or harmful when the wakefulness results from itching. Chloroform or ether are not to be advised for this purpose.

6. Some of the newer anti-neuralgic and hypnotic remedies are often of great service in quieting the general irritation and inducing sleep in skin patients, and gelsemium and cannabis indica internally are also valuable to control itching. It is often desirable to give

repeated doses at half-hour intervals until the desired effect is produced.

If time and space allowed I could give you abundant confirmation of each of the above points and any number of illustrative cases where disturbance of sleep caused an aggravation of eruptions or even their fresh appearance; but we must hasten on to other hygienic matters which often have a material bearing on some diseases of the skin.

Rest. In the rush of modern life many do not recognize the necessity of sufficient rest of a proper sort, and one frequently sees cases of various cutaneous affections where nervous or physical exhaustion from want of proper rest, aggravates the disease or renders it rebellious; often activities are undertaken for so-called pleasure, which are wrongly regarded as recreation, when real rest would have been a more efficient *re-creation.*

Rest before the meals is most valuable, and is worth much more than rest, or lying down, after meals, which often induces a very sluggish state of the system. In nervous and exhausted subjects a most valuable method is to combine rest for exactly half an hour, beginning an hour before meals, with the milk treatment already described: and I could give many, many instances where the transformation of the patient by this simple procedure has been simply marvellous. I am very particular to direct the patients to lie down in a dark room,

and to be called in exactly half an hour: in this way a short nap is commonly secured, and the patient is then up for half an hour, refreshed and ready for the meal. This is especially beneficial in the afternoon, just one hour before dinner, as it takes off the strain and stress of the day, and enables the evening meal to be better digested.

Exercise. The question of exercise in connection with many cases of disease of the skin is sometimes a difficult one to determine, and harm often arises both from excessive and deficient exercise. The aim, of course, is to have sufficient physical exertion to ensure adequate and proper muscular movement, in order to effect the proper interchange of nutritive substances and the elimination of waste products.

But, as mentioned in a former lecture, this depends very largely on the quantity and quality of the food taken and also on the oxygen inspired. It is quite possible, therefore, by means of an exactly proper diet to have such an equilibrium of nutrition established that good health will be maintained with very little exercise; and long observation and experience have convinced me that the matter of exercise is often overdone, and that in many instances eruptions on the skin are harmed instead of benefited by too violent or prolonged exertion. It is a mistake to believe that the tired merchant, banker, or professional man, or weary school teacher can with advantage take a long walk home, or

at once engage in violent exercise, bowling, golf, tennis, basketball, etc., with benefit; and I could give any number of illustrative cases where the cessation of this overstrain has been followed by the most happy results in regard to many a skin affection.

On the other hand, too sedentary a life with overeating can and often does lead to a stagnation of the vital processes, which contributes to the production or continuance of certain cutaneous disorders. This is a matter which must be regulated by the physician, for each case, on its own merits.

MASSAGE. This is, of course, but a poor substitute for voluntary muscular exercise, and I must confess that I rarely order it and have had relatively little experience with it; although I have had some patients with various skin affections who claim to have been benefited thereby. It must be used, however, with caution when the skin is diseased, for I have repeatedly seen skins which have been greatly irritated by the process, when advised by others, and even fresh eruptions thereby developed.

OCCUPATION. The occupation of a patient may often have a great bearing on the eruption present, and this should always have the close attention of the careful physician, in the management of many cutaneous conditions.

Not only may an eruption have been directly caused by the occupation, as in the case of eczema in washer-

women, masons, plasterers, and others, also when irritating dyes, drugs, minerals, or acids inflame the surface, but many occupations act in a more or less indirect manner in causing or fostering an eruption on the skin. It is well, therefore, always to be sure whether there is any such etiological element which can be removed or modified in some manner. The matter of direct occupational eruptions need not detain us here, other than to mention that their cause should be always recognized and removed, as far as possible or necessary.

The indirect effect of occupation is sometimes seen very clearly to occur through the agency of the nerves or the circulatory system. It constantly happens that an overstrained business or professional person will have an eruption which is rebellious while the conditions last, but which will yield readily with rest and a relaxation of the strain: the same is true in regard to an exhausted mother or overtaxed school teacher or scholar. It may not be necessary to stop all occupation, and a little thought and planning can often overcome or counteract many of the injurious elements.

Occupations which affect the circulation may also have a very prejudicial effect in certain diseases of the skin. One of the worst cases of *acne rosacea,* combined with indurated lesions, that I have ever seen was in a young woman engaged in a shoe store: she would do very well under treatment when away from her occupation, but when she resumed her work, requiring

the head to be bowed over, the trouble returned with severity. In another instance, in a blacksmith, the heat and hanging posture of the head, rendered the same trouble practically incurable. In cooks or others about the fire it is often very difficult to control *acne* or an *erythematous eczema* of the face, but a great deal can be done by avoiding stooping, and by protecting the face from the heat with a palm-leaf fan; also in sewing and reading, I direct that the head shall be held upright and the face turned from the light.

Circulatory disturbance from occupation is constantly seen also in car drivers, washer-women, turners, and others who have to stand still for long hours: *eczema* and *ulceration of the lower extremities* will sometimes be extremely rebellious in them, owing to the fact that the weakened capillaries and varicose veins prevent the proper absorption of effused products. Elevating the feet actually higher than the head, whenever possible, and even all night by elevating the foot of the bedstead, will help a good deal in the cure; but happily with the solid rubber bandage,[2] when properly applied and worn rightly, during the day, we can commonly control these hitherto rebellious conditions.

Atmospheric Conditions. Many patients with various eruptions are not only very sensitive to heat or cold, but are also conscious of barometric changes in

[2] Bulkley. On the use of the solid rubber bandage in the treatment of Eczema and ulcers of the leg. Archives of Derm., N. Y., July, 1878.

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an impermeable varnish, as when the child died who was gilded to represent an angel at the coronation of Pope Leo X.

The tendency of modern times is to the very free use of water externally, and while the healthy skin may stand it, for a while at least, bathing may readily be carried to an injurious extent by patients with most diseases of the skin. Not to speak of the harm which sometimes comes from injudicious bathing in the way of disordered circulation and internal congestion, and their subsequent ill effect upon the skin, we frequently find the cutaneous surface greatly irritated by the excessive use of water. Many look upon a disease on the skin as particularly loathsome, and seem to think that some portion of the trouble can be removed by washing, and great harm instead of good often results from such irrational thinking and acting.

Toward the close of his life that acute observer and student of diseases of the skin, Professor Hebra, of Vienna, wrote very strongly to the effect that the matter of bathing was constantly overdone: he stated that he saw more eruptions in those who were active bathers than in those who neglected the skin in this respect. And his clientelle represented a very wide range of territory, among the rich and poor. And from long observation[8] I am convinced of the truth of his statements, and quite agree with him.

[8] Bulkley. On the use of water in the treatment of diseases of the skin. Chicago Med. Jour. and Examiner, Jan., 1880.

Properly medicated baths, when carefully prescribed, are undoubtedly of value in certain diseased conditions of the skin, but great care must often be taken in drying the surface; this can be best done by hot towels, in order to absorb the moisture without friction; important also is the immediate treatment of the skin subsequently, by means of proper medicinal applications.

Turkish and Russian baths are often taken with a view of "purifying the blood," and eliminating some supposed *materies morbi* through the skin: the fallacy of this need not be dwelt on. As a means of promoting the activity of the skin they are occasionally of service, but it is questionable if the powerful stimulation of its glands to excessive action is not often followed by a corresponding reaction which is harmful. Turkish and Russian baths may be likened to the action of purgatives on the bowels, which, while occasionally they are required and are valuable, are certainly prejudicial if abused. I may say that I very rarely have occasion to order them, but continually see reason to forbid their use, and that I have repeatedly seen them aggravate eruptions immensely.

Sulphur and mercurial baths, as ordinarily employed, probably do more harm than good, and I have seen any number of patients whose skin trouble has been greatly increased by them: indeed at present they are ordered very little by those best acquainted with diseases of the skin, and I rarely have occasion to prescribe them,

but frequently direct their discontinuance. Possibly in a very extensive case of *tinea versicolor,* or aggravated general *ringworm of the body,* or in an occasional case of old *scabies,* sulphur baths may be of service, but other measures act efficiently and they are unnecessary, and I have seen much artificial dermatitis excited by them, even in these eruptions. Mercurial baths may be necessary in certain rare cases of *syphilis,* where it is desired to mercurialize the system rapidly, but I believe they are but rarely employed now, while for other skin affections they are generally unnecessary and often harmful.

Sea bathing is often of considerable value in *psoriasis,* and possibly in old *lichen planus,* but is certainly irritating to any acute eruption, and even chronic *eczema and acne* will often be aggravated by it. But sea air and even sea bathing are often beneficial to eczematous subjects when there is little or no eruption, especially to those who have lived at some distance from the ocean. As a rule, however, those skin patients who have been dwelling on the seaboard receive most benefit from a complete change to a mountainous region.

Mineral Springs. It seems to be the common impression both among the profession and the laity that in some mysterious manner mineral springs are "good for diseases of the skin," and so multitudes flock to them quite irrespective of the malady which afflicts them, or of the quality of the waters: patients are

often allured to them by florid advertisements, for commercial purposes, or by the advice of some one whose friend, or friend's friend, was said to have been benefited thereby. I do not know if some of the supposed value of this hydropathic treatment has not had its origin in the famous Biblical case, where Elisha the prophet told Naaman the Syrian, who was afflicted with leprosy, to bathe in the river Jordan seven times: and, when he obeyed "his flesh came again like unto the flesh of a little child, and he was clean"; alas, the day of miracles is past!

Now to be of real service the mineral water should be as intelligently prescribed as any other remedy: certain springs may perhaps be of value in certain forms of disease or in some conditions of the system, while for others quite a different mineral water is required. Failure to discriminate in this respect has led to innumerable disappointments and fruitless or harmful journeys, at vast trouble and expense. To advise or permit a patient with a cutaneous affection to visit and make use of them indiscriminately, is likely to be as useless, if not as harmful, as to send one to a drug store without a prescription: and not one in a hundred of the multitudes who wander among these resorts, receives the benefit hoped for, or expected from the printed statements, which are too often colored by personal bias or commercial interest.

But visits to mineral springs, even if they are such

as are suitable to the condition present, are often of relatively little value because of the neglect of, or errors in, the use of proper dietary, hygienic, and perhaps medicinal measures at the same time: too often the patient drops all other treatment, and may not even consult a physician at the springs, but blindly drinks or bathes, or both, as inclination or the advice of a friend or of some attendant may suggest. At the springs abroad there are generally competent physicians, some of whom have long been resident and made a study of the waters, and treatment is carried on more or less intelligently. But in this country the resident physicians are apt to be frequently changed, and speaking generally, there is not, as a rule, that careful and intelligent use of the waters and other proper measures which are necessary to secure the highest benefit therefrom. The sea trip, rest from care, change of air, scene, and diet, together perhaps with a large expectancy of benefit, all contribute to the greater results sometimes obtained from such treatment abroad, as compared with the too frequently useless or harmful results attending visits to the watering places in this country.

The subject of the value of various mineral springs is a large one which cannot be adequately treated at the present time. My observations, as you may judge from what has been said, have been largely of an adverse or negative character, and I am convinced that the relative value of mineral springs as compared with

competent, careful treatment at home has been very greatly overestimated; for it has fallen to my lot to see hundreds of patients with various cutaneous affections who have visited mineral springs either with no benefit or with but temporary gain, or who were even made worse thereby: while I have known or heard of really very few who have been greatly benefited or apparently cured by this means. As a result of personal visits and sojourn at dozens of the most noted watering places in this country and in Europe, I am convinced that by far the larger share of the patients with skin affections who visited them would do infinitely better under proper medical care at home, employing an equal quantity of ordinary water in the same way as at the springs. When studying this subject some time ago [4] I came to the conclusion that it was the water itself, rather than the mineral ingredients it contained, which was of benefit. This confirms in a measure what has been said in a previous lecture in regard to the value of water in promoting proper metabolism, upon which so much depends in treating diseases of the skin.

There are, moreover, several disadvantages which one often observes in connection with the supposed value of mineral springs, which it is often difficult to overcome, and which should be mentioned. The expression is often used of a "cure" at such and such

[4] Bulkley. What real value have Natural Mineral Waters in the treatment of diseases of the skin. Medical Record, Jan. 4, 1890.

places (which is really a corruption of the French "Cours," and the German "Kur," which mean only a "course" of treatment), and patients too often regard such a "course" as a veritable *cure:* so, after being perhaps somewhat benefited thereby they will neglect all proper treatment and so relapse into their former condition, or worse. This is peculiarly true in regard to *syphilis,* and for this reason it is questionable if more ultimate harm than good has not been done through the existence and employment of certain springs which have a reputation for the cure of this disease. It is now pretty well granted by all that it is really the energetic treatment with mercury and iodide of potassium given at these places which is responsible for any benefits observed; and it is equally well known that it is only by prolonged proper treatment with those same remedies that final good results can be obtained: this is often neglected after a supposed relatively brief "cure" at these places, and I have seen some sad cases as a result.

Another disadvantage is that having tried one or more mineral springs without satisfactory results, many patients with diseases of the skin become hopeless in regard to their condition, and too often fail to secure and persist in the proper course of other treatment which would be quite able to cure, if persisted in.

Inasmuch, however, as some of your patients may insist on visiting a mineral spring, it may be interesting

and valuable for me to give you some definite information in regard to the character and qualities of certain of those which are best known; for the total number of those which have been at times vaunted before the public is legion.

We will find that they are often divided into five classes, as follows: 1, Laxative; 2, Diuretic; 3, Diaphoretic; 4, Tonic; and 5, Alterative. But they are usually classed under their chief ingredients, and we will therefore divide them thus, with brief mention of their principal uses. We find, therefore, that there are eight different classes of mineral waters, as follows: 1, Pure or indifferent Waters; 2, Alkaline Waters; 3, Saline Waters; 4, Sulphur Waters; 5, Ferruginous Waters; 6, Arsenical Waters; 7, Bromo-Iodine Waters; 8, Thermal Waters.

1. Pure or Indifferent Waters. These often serve a good purpose in simply washing out the system, and patients will often take them faithfully when they will not use ordinary water freely enough: they thus lead to the introduction of a sufficient, or surplus quantity of water, which, as has been remarked, is the main element of value in most of the spas visited, whatever be the nature of their mineral ingredients. Such are the Poland waters of Maine, the Bethesda and Waukesha of Wisconsin, Blue Ridge of Virginia, and Divonne, Wildbad, Gastein and others abroad. They are of service especially when the urine is of a high specific

gravity and acidity: Bethesda water, bottled (but not aërated) is of great value in increasing the quantity of urine.

2. Alkaline Waters. A large variety of these are found here and abroad, and occasionally are useful in eruptions exhibiting lithæmic and gouty symptoms; by their antacid action they are also often of service in many conditions. Such are the Vichy at Saratoga, Berkshire Soda in Massachusetts, Capon in Virginia, and Vichy and Contrexeville, in France, also Vals, Baden Baden, Teplitz and others abroad. To this class belong likewise the various so-called lithia waters, whose value in diseases of the skin, however, has been greatly overestimated. They are milder in action than those in the next class, and are generally very little laxative.

3. Saline Waters. Many of this class of waters contain much of the alkaline element, while in others the sulphates of sodium and magnesium preponderate, giving rise to the name "bitter waters," which are laxative or purgative. To the former belong many of the Saratoga Waters, Congress, High Rock, Empire, also St. Catherine in Canada, Carlsbad, Wiessbaden, Royat, and many others in Europe. Among the latter, or more purgative waters may be also mentioned the Crab Orchard of Kentucky; Bedford of Pennsylvania, and Hathorn of Saratoga, all of which are, however, relatively mild compared with the Rubinat, Villacabras,

Pullna, Hunyadi, and others abroad. Most of these are bottled and are not used for bathing. Between these two stand a large class of milder saline waters much used for both drinking and bathing, represented by Leamington and Malvern in England, and Ems, Kissingen, Homburg, and Nauheim, in Germany. All these waters are at times of value internally in suitable cases, to relieve abdominal plethora and counteract intestinal fermentation, but when used externally they may prove irritating to diseased skin.

4. Sulphur Waters. This class of waters are perhaps those which are most sought after by patients with diseases of the skin, from the popular impression that in some way sulphur is good for this class of affections: but I am safe in saying that even this class of waters are seldom advised by those well acquainted with this branch. As alterative and anti-rheumatic agents they may serve a good purpose in certain chronic eruptions, but in conditions which are all acute they frequently prove harmful. *Psoriasis* is sometimes benefited by their prolonged use, but they are incapable of really curing the disease, as may be judged from what has preceded. Among those best known in this country are Richfield and Sharon in New York, Alburg and Highgate in Vermont, Greenbrier White Sulphur in West Virginia, French Lick in Indiana, Upper and Lower Blue Lick in Kentucky, and Glenwood Springs in Colorado: abroad, Harrogate, Aix-les-Bains, Aix-

la-Chapelle, Uriage, Ischl, Louéche-les-Bains, and many others are frequented. In the latter place patients remain for hours in a large tank together, reading, playing chess, etc., and at Glenwood Springs, Colorado, there is a very large pool, out of doors, in which many bathe in the warm sulphur water, even in the winter.

5. Ferruginous Waters. Iron is contained in many of the mineral springs here and abroad, which are classed as other waters, and this element often contributes somewhat to the possible benefit sometimes obtained from them. There are some springs, however, that are distinctly ferruginous, and it is often wise to have patients make a stay at one of them for a few weeks after a visit at one of the saline or purgative waters. Such are the Chalybeate at Sharon, New York, the Sweet Chalybeate and Rawley in Virginia, Pyrmont and Plombieres in France, Schwalbach in Germany, Eisenbach and Franzenbad in Austria, St. Moritz and Tarasp in Switzerland, Spa in Belgium, and Bath and Tunbridge Wells in England. Most of these waters are cold and used only for drinking, and those in Switzerland are frequented mostly for the invigorating air.

6. Arsenical Waters. There are few if any noted arsenical springs in this country. Those best known abroad are Levico in Austria, said to be the strongest known, La Bourboule, Royat, and Bains-les-Bains, in France, Gerace in Italy, and Neunahr in Germany.

While patients with certain diseases of the skin are benefited by arsenic used in proper doses, in connection or combination with other remedies, it is idle to suppose that a short stay at any of these places can be effective to any great degree: they are, of course, not indicated in acute conditions, but occasionally those who have been at the alkaline or saline springs receive a certain amount of good by a sojourn as long as possible at one of these places, as most of the waters also contain a certain amount of iron.

7. Bromo-iodine Waters. In strumous or old syphilitic cases some of the springs containing a small amount of bromine and iodine are of service. The principal ones are Woodhall in England, Kreuznach in Germany, Baassen in Hungary, and Bex in Switzerland.

8. Thermal Waters. While many of the springs already mentioned are hot, some of them very hot, the term thermal waters is usually given to those which are indifferent, or without any very active medicinal ingredients. Such are Buxton in England, Aix-les-Bains and Luxiel in France, Schlangenbad in Germany and Gastein and Tepliz-Schonau in Austria. In this country there are a number of such springs which are frequented by thousands in the hope of washing away some of the "impurities of the system," upon which they suppose that skin disease depends. Such are the Hot, Warm, and Healing Springs in Western Virginia, also Hot Springs in Colorado, Idaho, and California; but the

ones best known are perhaps those in Arkansas, to which thousands flock with syphilis and various skin diseases. It is now known, and pretty generally accepted, that these springs have in themselves absolutely no curative effect on *syphilis,* but that, as already mentioned, all the results ever obtained there are due to the intensive mercurial, and often iodide of potassium, treatment which is given at them. It is quite possible that the frequent hot bathing enables the system to utilize a larger proportion of these remedies than is commonly the case at home: but it is a fact that few, if any, of those who know the disease and its proper treatment best, ever find it necessary or wise for patients with syphilis to visit the hot springs, while, as has been already detailed, there are many reasons why they should not do so.

Time forbids our dwelling longer on the subject of mineral springs, or the possible advantage or value of any of them. I have only given you this list of some of the principal ones, and the nature of the waters, that you may be better able to judge in case any of your patients insist on visiting them. I do not deny that all of them have been of service in certain cases, and sometimes it is wise for patients to visit them in summer, instead of going to some less advantageous spot, but you can see that it is by no means an unimportant matter as to where they should go; and, to tell the truth, if just the proper treatment is given them at home it is rarely necessary for patients with diseases of the skin

to spend the time and money in such experiments, which are so often, or I might say, generally so futile.

It is so late that only a few words can be given to the second part of our subject, namely, the hygiene of diseases of the skin, as related to *others than the patient.*

The impression is very common, among the laity at least, that diseases of the skin as a class are contagious or at least loathsome, and that precautions should always be taken against infection. It is almost needless to remind you that this is not so, and at my clinical lectures you have continually seen me handle every case freely, as I have done for forty years, without harm, and with the exercise of but very little precaution against contagion in certain cases. You know that there are really very few of the diseases appearing on the skin which are contagious or infectious, and that the great mass of cases which one sees are as harmless as are those when any other organ is diseased: you know that aside from the exanthemata (which we will not consider) there are hardly half a dozen, out of over a hundred recognized cutaneous affections, about which there need ever be any thought of contagion; and, excepting syphilis, the numbers of patients affected with them are relatively few.

There are, however, a few points which I would like to mention, or better, recall to your minds, in regard to the few diseases in connection with which any precautions need ever be taken.

Syphilis of course comes first, and although with

greater general enlightenment there seem to be fewer cases of innocent, extra-genital infection, still the danger of this should ever be borne in mind, and patients in the earlier stages should always be strenuously cautioned in regard to the danger of communicating the disease to others. This subject is so large that we can barely touch upon it, and I must refer you for details of the various possibilities of infection to what has been fully presented elsewhere.[5] You know, of course, that the mere presence of a syphilitic is not dangerous, but that there must be the actual transference of the poison, directly or indirectly, in order to transport or acquire the disease; and even physicians and nurses attending such cases, and dressing syphilitic sores, very rarely become infected, when the nature of the case is known and proper precautions are exercised. A badly affected syphilitic infant, however, is a pretty dangerous thing, and indeed all patients with early syphilis should regard themselves for a time as sources of danger, and be on their guard against communicating the disease to others, mainly through lesions on the mucous membranes.

The marriage of those who have had syphilis is also a great hygienic subject which can hardly be touched upon, as also that relating to those who have become infected during wedlock. Too much care cannot be exercised in these cases: marriage should certainly not be

[5] Bulkley. Syphilis in the Innocent. New York, 1894.

allowed until at least two Wasserman's have been negative at intervals of six months, the first taken after six months' cessation of prolonged treatment, with absolutely no signs of syphilis for the year, without treatment. Marital syphilis is unfortunately only too common, and it is the duty of the physician to repeatedly warn against infection, and in every possible way to guard the innocent who may be exposed.

Scabies is an eruption which is often neglected until several members of a family or community are infected, when, if proper hygienic precautions are taken this is not at all necessary. Prompt and vigorous treatment quickly checks the trouble, and thorough boiling and disinfection of the clothing prevents its spread: when the disease is first suspected protective measures should be taken and continued until it is certain that the trouble has been fully eradicated. The same is true of *pediculosis,* which is sometimes seen in refined circles, and I have known head lice to spread through high class boarding schools on more than one occasion.

The vegetable parasitic diseases, *ringworm* and *favus,* may at times present hygienic problems not easy to solve. When the former breaks out in an institution it will often be most difficult to eradicate, and isolation of those affected is necessary. These cases are now rightly excluded from our public schools, and at home the greatest precautions should be exercised to prevent

its spread, not only by more or less isolation, but also by keeping the affected scalp constantly covered with a paper cap, which should be burned frequently.

Tinea versicolor, while it is a parasitic disease, is rarely communicated, and practically no precautions are necessary against contagion: it is curious to note that it is extremely seldom seen in two members of a family, and I cannot at the moment recall if I have ever seen it on husband and wife.

Impetigo contagiosa, while it occasionally spreads to several children in a family, requires little hygienic care, for under proper treatment it commonly yields almost at once and seldom recurs.

Molluscum contagiosum will sometimes appear in groups of children, but it is practically non-contagious and no special precautions can or need be taken against it.

Tuberculous eruptions, or *tuberculides, lupus,* etc., have so little to do with active tubercle bacilli that there is really no danger of contagion, and protective hygienic measures are not called for, and I do not know of any that are ever attempted.

There is one disease, manifesting itself on the skin, namely, *leprosy,* about which there has been in times past a great deal of unnecessary anxiety in regard to hygienic prophylaxis; and it is safe to say that even today the known presence of a leper would cause more alarm in certain circles than that arising from the presence of

any number of patients afflicted with really contagious diseases, including syphilis.

But those who know most about the disease have no fear whatever. You have repeatedly seen cases of true leprosy here, which I have lectured on in the clinics, and which I have handled as freely as any other patients: and this I have done without harm for over forty years, often seeing many cases in the year, and on one day I examined carefully 236 cases in the Philippines, many of them of the most serious, ulcerating types. We have constantly admitted cases of true leprosy into this hospital, in the wards with other patients, now for about thirty years, and we, as well as those connected with many other institutions, including even leper asylums in many countries, testify that authentic instances of the contagiousness of leprosy are unknown.

It may be asked, then, what need is there then of the segregation of lepers in asylums? The same need there is of gathering other special groups of diseases, as those of the eye, skin, throat, children, female diseases, etc., that they may be better cared for, in the most skillful manner; this is more especially desirable in certain communities, because lepers are often poor and are considered as outcasts, and so are neglected and totally untreated.

In the light of modern investigation those who know most about leprosy do not consider it necessary to place restrictions on the patient for the safety of others, in

this country, at least; although it is granted by some that food handled by lepers might be the means of conveying the bacillus through the stomach, as in the case of fish which have become infected, as mentioned in a former lecture: but while in Siam I learned of one gentleman who for years had had a cook who was a leper. As far, however, as relates to contagion by proximity, contact, the breath, etc., there is not the slightest danger; and thousands of instances can be found, even in leprous countries, where wives and husbands have lived for years with those affected without becoming diseased, and where there are families of healthy children with one or the other parent affected with leprosy.

In bringing this rather long lecture, and this series of lectures to a close, I wish to thank you for the close attention and interest which has been manifested, even when I have had to go over matters familiar to many of you, and when I have felt it wise to dwell on other matters at what may perhaps have seemed an unnecessary length.

As in my lectures a few years ago on "The Relation of Diseases of the Skin to Internal Disorders," [6] I endeavored to make it very clear that one should take a very broad-minded view of Dermatology, and not regard the skin as an independent organ and its diseases as local

[6] Bulkley. The Relations of the Skin to Internal Disorders. N. Y., Rebman Co., 1906.

affairs; so in these lectures I wanted to broaden your horizon yet more, and have you see with me what immense influence, for good or bad, the matter of diet and hygiene may have in connection with many diseases of the skin. If I shall have helped any of you to cure some of your patients I shall feel amply repaid for the no little time and effort it has taken to prepare and deliver the present course.

APPENDIX

APPENDIX

SPECIAL DIETS

In the preceding pages we have examined the principles upon which the dietary treatment of certain diseases of the skin should be grounded, and these must always be regarded and understood as a basis for the proper directing of any special dietary measures. Much attention must also be given in regard to individual idiosyncrasies, and the general nutrition of the patient. Dietary rules should not be ordered carelessly nor indiscriminately, but adjusted to each case, quite as carefully as all medicinal remedies: it is well to remember the saying that "what is one man's meat is another's poison" and also that, with certain limitations, "every man is a law unto himself." The matter of diet should also be often considered and reconsidered in each special case, and inquiry constantly made as to whether it is strictly maintained, and also as to its effect on the weight and general well being of the patient, ability to do work, mental and physical, etc.; otherwise errors are sure to occur.

It is to be remembered also that in all that has been said or may be said in regard to dietary regulations, they are commonly only one feature of treatment, and

that correct medical measures, internal, external, and hygienic, must commonly be employed in conjunction with them in order to obtain the best results in diseases of the skin. While, as has been shown, correct diet is undoubtedly the basis of a proper nutrition, other and proper medical treatment is commonly required in order that the different organs may perform their functions properly. It is too often due to the neglect of these common sense precautions that discredit is thrown on this or that plan of diet or hygienic measure, which when rightly utilized may be of the greatest value.

We cannot here attempt to present at all fully the various dietary theories and regulations which have been advanced, many of which have undoubtedly effected good results in selected cases in the hands of those who have advocated them. The present purpose is to set forth lines of diet which practical experience for many years has shown to be of value in certain cutaneous affections. As it has been shown in the preceding pages that the nitrogenous element seems most often to be at fault, we will illustrate our subject under three heads: 1st, Nitrogen-free diet; 2nd, Purin-free or largely Vegetarian diet, and 3rd, Light mixed diet.

I. NITROGEN-FREE DIET.

Rice boiled in water for half an hour, and then left uncovered, to dry out, 15 or 20 minutes.

Fine white bread, at least twenty-four hours' old.

Butter used freely on the rice and bread, at least quarter of a pound daily.

Water, hot or cold, but not iced, and drank separately from food.

Very thorough mastication is necessary, and half an hour should be consumed at each meal; the rice is eaten with a fork, and each mouthful is thoroughly masticated, and even "fletcherized," that is, not swallowed sooner than absolutely necessary, as also the bread. This course is followed at each meal, three times daily, for five days, in acute inflammatory eruptions, when a more varied diet is cautiously returned to; it may be repeated with advantage when needed, or in rare instances may be continued for a much greater time, as mentioned in the fourth lecture.

II. PURIN-FREE OR LARGELY A VEGETARIAN DIET.

In many systems of vegetarian diet eggs and milk are freely allowed, but in the present dietary they are largely excluded, with the view of obtaining the necessary nitrogenous elements from the vegetable kingdom. The only non-vegetarian substance allowed in quantity is butter, which represents an almost purely carbohydrate product, containing 85 per cent. fat, practically all of which is absorbed and utilized. Its very high caloric value is well known, one pound of butter, if it could be eaten and properly digested, yielding about 3500 calories, or the full amount requisite for life: although,

of course, the almost total absence of protein would render it an unfit food for complete nourishment.

Oils and fats may also be freely employed, and a little very fat pork, as crisp bacon, or baked with beans, may be well added to the diet occasionally, as also a little of the fat only of beef and mutton: oil in salad dressing, and also even in a little mayonnaise now and then may not prove harmful, also table oil may be used on macaroni and spaghetti. Eggs, containing no purin or purin-yielding substance, may be occasionally used, but in a great moderation, as they have a considerable percentage of protein. The smallest quantity of cheese, as a relish, may often be taken with advantage, but most cheeses contain a large amount of protein; Fromage de Brie having the least, and Neuchatel next.

It is recognized, as previously stated, that many articles of the vegetable kingdom also contain a very considerable amount of protein, and under certain conditions of the system it may be best to use them sparingly. Some of the most striking may be again mentioned, arranged in accordance with the per cent. of protein [1] in them, with their caloric value, etc.[2]

The fruits have a still lower protein element, but their acid properties make them often of doubtful value in many diseases of the skin.

[1] The protein element in beef runs from 22 to 30 per cent., mutton and lamb 15.5 to 20, chicken and turkey about 21.5, and pork about 19 per cent.

[2] Sherman. Chemistry of Food and Nutrition. New York, 1911, p. 319.

TABLE I.

Articles of Food and Their Fuel Value.

Vegetarian.	Protein N x 6.25 per cent.	Fat per cent.	Carbohydrate per cent.	Fuel value per pound Calories.	Grams to yield 100 Calories portion.
Butternuts	27.9	61.2	3.5	3065	15
Black walnuts	27.6	56.3	11.7	3001	15
Peanuts	25.8	38.6	24.4	2490	18
Peas, dried	24.6	1.	62.	1611	28
Beans, dried	22.5	1.8	59.6	1565	29
Cocoa	21.6	28.9	37.7	2258	20
Almonds	21.	54.9	17.3	2940	15
Walnuts, California	18.4	64.4	13.	3182	14
Beans, lima, dried	18.1	1.5	65.9	1586	29
Brazil nuts	17.	66.8	7.	3040	15
Oatmeal	16.1	7.2	67.5	1811	25
Entire wheat flour	13.8	1.9	71.9	1630	28
Macaroni	13.4	.9	74.1	1625	28
Graham flour	13.3	2.2	71.4	1628	28
Wheat flour, average high	11.4	1.	75.1	1610	28
" " California, fine	7.9	1.4	76.4	1585	29
Farina	11.	1.4	76.3	1640	28
Zwieback	9.8	9.9	73.5	1915	24
Soda crackers	9.8	9.1	73.1	1875	24
Corn meal	9.2	1.9	75.4	1620	28
Bread, white, average	9.2	1.3	53.1	1182	38
Barley	8.5	1.1	77.8	1615	28
Hominy	8.3	.6	79.	1609	28
Rice	8.	.3	79.	1620	28
Rye flour	6.8	.9	78.7	1590	29
Buckwheat flour	6.4	1.2	77.9	1580	29
Chestnuts, fresh	6.2	5.4	42.1	1098	43
Figs, dried	4.3	.3	74.2	1437	32
Mushrooms	3.5	.4	6.8	204	223
Green corn	2.8	1.2	19.	455	102
Raisins	2.6	3.3	76.1	1562	29
Molasses	2.4	...	69.3	1302	35
Beets	2.3	.1	7.4	180	252
Potatoes, white, raw	2.2	.1	18.4	378	120
" chips	6.8	39.8	46.7	2598	19
" sweet, raw	1.8	.7	27.4	558	81
Spinach	2.1	.3	3.2	109	417
Dates, dried	2.1	2.8	78.4	1575	29
Prunes, dried	2.1	...	73.3	1368	33
Asparagus, cooked	2.1	3.3	2.2	213	213
Cauliflower	1.8	.5	4.7	139	328
Parsnips	1.6	.5	13.5	294	154
Onions	1.6	.3	9.9	220	206
Okra	1.6	.2	7.4	172	264
Cabbage	1.6	.3	5.6	143	317
Squash	1.4	.5	9.	209	217
Turnips	1.3	.2	8.1	178	256
Lettuce	1.2	.3	2.9	87	525
Eggplant	1.2	.3	5.1	126	349
Olives, green	1.1	27.6	11.6	1357	33
Celery	1.1	.1	3.3	840	542
Carrots	1.1	.4	9.3	204	221

A glance at this table shows that all the articles mentioned have a certain percentage of protein, and some of them, as the nuts and dried peas and beans, have a very large quantity, while oatmeal has also almost as much protein as some varieties of meat, as seen in Table II, page 166; so that in choosing between flesh food and that belonging to the vegetable kingdom it is really a choice between protein elaborated by animal life or that directly obtained from vegetable elements, from which animals obtain their protein; for some protein is necessary for the system. I cannot now point to any laboratory demonstration of just the difference of action between animal and vegetable protein on the human frame, but clinical experience has abundantly shown that excess of the former does often act very prejudicially, while when only vegetarian food is taken the system is not all likely to obtain more nitrogenous elements than it can well manage.

It is well known that the human system requires somewhat definite proportions of the three ingredients of food, protein, fat, and carbohydrate, and also that a tolerably fixed total of calories daily is required, according to the age and weight of the individual, occupation, end to be accomplished, etc. Accordingly, in order to maintain perfect nutrition, in some sanitariums it is attempted to regulate the daily amount of these proximate principles by means of carefully prepared menu cards, on which the percentage of each is

affixed to every portion of all the articles served, and the patient is desired to adjust the diet according to the direction of the physican in charge; the total amount of protein, fat, and carbohydrate, in every portion eaten is added together, and regulated in such a manner that the desired number of calories of each is consumed, and that the proper total number of daily calories is ingested.

This is, of course, quite impracticable in ordinary daily life in the home, and is hardly advisable to attempt outside of a sanitarium; but the principle remains that the nourishment should be adjusted according to the needs of the economy, and that a deficient supply of either of the three proximate principles of food leads to inanition, while an oversupply of the total calories furnished (which cannot therefore be utilized by the system) undoubtedly leads to obstruction in the function of some of the organs of life: while too great a disparity in the relative proportions of protein, fat and carbohydrate tends to derangement of the processes of metabolism, and to consequent disease.

As remarked in one of the lectures, the ordinary guide in health as to the quantity and quality of food and drink to be taken is the *appetite;* but all recognize that this may be perverted in various ways, and too often the *taste* is consulted in its place, and the *taste* is often *gratified* instead of having only the *appetite satisfied:* and it will frequently require a good deal of pluck and persistence on the part of both physician and patient to

institute and carry out faithfully a dietary which will remove the morbid conditions present and prevent their re-development. To aid in this work an outline of articles which may be used in a Purin-free, largely vegetarian diet will be given in the form of daily menus for ten days. In many skin affections it is better to make the evening meal light, therefore the dinner is placed in the middle of the day.[3]

[3] These menus are made up in part from the actual daily records preserved by a number of patients who throve for long periods on this diet, and faithfully recorded in little books the articles consumed at each meal. It is understood that bread, not less than 24 hours old may be used in addition at every meal, a couple of slices of ordinary thickness, with plenty of butter. A goblet of water, hot or cold but not iced, may be taken with each meal, care being taken that each mouthful of food is thoroughly masticated, or "fletcherized," and swallowed before any liquid is taken into the mouth.

PURIN FREE OR LARGELY VEGETARIAN DIET.

First Day.

Breakfast.

Postum
Wheatena and butter
Hashed brown potatoes
Toast
Cut up sweet orange

Dinner

Barley soup
Macaroni with grated cheese
String beans
Turnips
Lemon jelly

Supper.

Weak tea
Corn flakes and cream
Tea biscuit
Stewed figs

Second Day.

Breakfast.

de Kaffa
Hominy and butter
Corn bread
Stewed prunes

Dinner.

Vegetable soup
Baked potatoes
Cauliflower
French peas
Lettuce salad
Bread pudding

Supper.

Puffed rice and cream
Toast
Graham wafers
Stewed dried apricots

THIRD DAY.

Breakfast.	*Dinner.*
Postum	Corn soup
Rice and butter	Spaghetti and grated cheese
Poached egg on toast	Spinach
Breakfast biscuit crackers	Boiled lentils
Cantaloupe melon	Tomato salad
	Tapioca pudding

Supper.

Weak tea
Grape nuts and cream
Butter thins
Waffles and honey

FOURTH DAY.

Breakfast.	*Dinner.*
de Kaffa	Celery soup
Oatmeal and butter	Pork and beans
French fried potatoes	Beets
Muffins	Boiled cucumbers
Banana	Fruit salad
	Nuts and raisins

Supper.

Force and cream
Toasted crackers and cottage cheese
Vanilla wafers
Canned huckleberries

FIFTH DAY.

Breakfast.

Postum
Rice and butter
Very fat crisp bacon
Graham gems
Stewed apples

Dinner.

Puree of spinach, croutons
Mashed potatoes
Lima beans
Fried parsnips
Romaine salad
Hominy pudding

Supper.

Shredded wheat and cream
Lettuce sandwiches
Lady fingers
Stewed dried peaches

SIXTH DAY.

Breakfast.

Postum
Wheatena and butter
Hashed brown potatoes
Sally Lunn gems

Dinner.

Chestnut soup
Stuffed eggplant
Asparagus
Brussels sprouts
Tomato salad
Dates

Supper.

Weak tea
Post toasties and cream
Zwiebach
Albert biscuit
Canned cherries

SEVENTH DAY.

Breakfast.

de Kaffa
Corn meal and butter
Boiled egg
Creamed potatoes
Graham rolls

Dinner.

Carrot soup
Mashed potatoes
Fried tomatoes
Rutabaga turnips
Celery salad
Cup custard

Supper.

Toasted rice flakes and cream
Uneeda crackers
Rice croquettes
Sliced oranges

EIGHTH DAY.

Breakfast.

Postum
Cream of wheat and butter
Buckwheat cakes and maple syrup

Dinner.

Asparagus soup
Stuffed potatoes
Carrots
French beans
Cold slaw
Figs

Supper.

Weak tea
Toasted wheat flakes and cream
Tea rusks
Nabisco wafers
Apple sauce

NINTH DAY.

Breakfast.

Postum
Pettijohn and butter
Scrambled eggs
Rye bread
Grapes

Dinner.

Cream of barley
Potatoes browned
Vegetable oysters
Baked tomatoes
Beet salad
Prune fluff

Supper.

Wheat berries and cream
Oatmeal crackers
Fruit wafers
Stewed pears

TENTH DAY.

Breakfast.

de Kaffa
Fried hominy
Saratoga chips
Graham bread
Orange marmalade

Dinner.

Sago soup
Baked sweet potatoes
Green corn
Creamed carrots
Asparagus salad
Brown Betty

Supper.

Ceraline with cream
Graham bread toast
Ginger snaps
Stewed raisins

In the foregoing menus I have endeavored to include about all the articles in the vegetable kingdom, except fruits and nuts, which are likely to be properly eaten, and a sufficient variety to satisfy many tastes. While it is not expected that the diet for each day shall be rigidly followed, the attempt has been made to balance each day's food so that about the proper proportion of protein, fat, and carbohydrates shall be taken, with the understanding that white or occasionally graham bread at least twenty-four hours' old, and plenty of butter, shall be consumed, as desired, with each meal.

It will be noticed that eggs have been allowed about twice in the week, and also fat pork, as bacon or cooked with baked beans, about as often. Milk has been largely excluded, except as it may occasionally occur in soup or custard or puddings, and cream is allowed with the evening dry cereal: a little cheese is also occasionally added as a relish. In altering these menus care should be taken not to derange too much the articles representing the different constituents of food: oatmeal, which has the highest percentage of protein, should not be taken oftener than once or twice a week. Coffee is excluded, except as de Kaffa, from which the caffeine is largely removed, and tea is allowed only every other day, when postum is taken: in place of this latter one of the other preparations of cereal coffee may be used, but all with very little milk. Water, not iced, may be

taken, a tumblerful with each meal, care being exercised not to wash down any food with it.

A purely vegetarian diet, of course, is not necessary to good health, although, as has been shown in previous chapters, it is extremely advantageous in some acute and chronic affections of the skin, and is invaluable in psoriasis. As is well known it has an ever increasing number of strong advocates and it has been clearly proved that vegetarians have repeatedly gained the victory over meat eaters: [4] also that mental activity can be greater with a properly regulated vegetarianism.

III. LIGHT MIXED DIET.

While it is quite possible, in order to preserve a proper "nitrogenous equilibrium," to secure all the necessary nitrogen for the system from the vegetable kingdom (as seen in Table I, page 153), it is also true that perfect health can be maintained with the addition of a certain amount of animal food, provided the organs and tissues can properly digest and metabolize the same. Protein is undoubtedly indispensable for the organism, and a much larger proportion of it is required in childhood and youth, for the building up of new tissue, than in later years. But the ox and the sheep get this from the vegetable kingdom and we appropriate their flesh, which contains protein in a concentrated form, and the

[4] Buttner. A fleshless diet. New York, 1910, pp. 118–174.

gratification of the sense of taste for animal food of all kinds leads many to take far too much of this highly condensed form of nitrogen.

With the enormous multiplicity of edibles of all kinds which are obtainable and often pressed upon one, it is difficult to state very definitely in regard to every article which might possibly be included in a "light mixed diet." And in reference to those with skin affections who do not require the first, or "Nitrogen-free diet," or the second, "Purin-free or largely Vegetarian diet," some one has said, "Find out what agrees with you and *chew* it well, and find out what disagrees with you and *es-chew* it entirely." But even if this can be found out individually by patients, they often suffer in many ways in the process of making the discovery, and really need the guidance of those of wider experience and knowledge. In regard to most of these matters reference must be had to earlier pages in this book, but some further general remarks can be made which may be of value.

Alexander Bryce has made an excellent study and review of most of the prominent theories of diet, and in a final analysis [5] has shown very properly that "the only conception which appears to unite them is the fundamental doctrine of moderation," which indeed is the keynote of all success in alimentotherapy. In good health moderation is *wise* and in ill health it is *essential.*

[5] Bryce. Modern Theories of Diet. N. Y., 1912, p. 333.

When any organ, therefore, as the skin, is at all seriously affected in its structure, and consequently more or less in its function, it behooves one to take just the amount and kind of food which will adequately supply the demands of the system, and such as will not tax its metabolic processes, either by total excess or illy assorted elements of nutrition.

The body needs daily for each pound of weight from 17 to 20 calories, during rest, and from 20 to 25 calories during hard work; and these should be in the ratio of about one of protein, to three of fat, and six of carbohydrates. How to adjust these correctly, without recourse to actual computation of percentages, as already mentioned to be the method in certain Sanitoria, is sometimes a little difficult; and in health, indeed, it is to a certain extent unnecessary, provided the individual will remember that the common estimate is that meat should constitute about one fourth and vegetable foods three fourths of a mixed diet: but as already shown the proportion of nitrogenous food is often increased far above the proper ratio, not to satisfy the appetite but to gratify the taste.

It may be interesting and instructive to note the percentages of protein, fat, and carbohydrate in some of the non-vegetarian substances commonly eaten, and also the fuel value of the same. The following table is extracted from the excellent one furnished by Sherman, in his work on "Chemistry of food and nutrition."

TABLE II.

Edible Nitrogenous Nutrients and Their Fuel Values.

Meats.	Protein N x 6.25 per cent.	Fat per cent.	Carbohydrate per cent.	Fuel value per pound calories.	Grams to yield 100 Calories portion.
Bacon, smoked	10.5	64.8	...	2840	16
Beef brisket, medium fat	15.8	28.5	...	1449	31
" corned, average	15.6	26.2	...	1353	34
" roast	22.3	28.6	...	1576	29
" steak, porterhouse	21.9	20.4	...	1230	37
" " sirloin	18.9	18.5	...	1099	41
" sweet breads	16.8	12.1	...	799	57
" tenderloin	16.2	24.4	...	1290	35
" tongue	18.9	9.2	...	717	63
Ham, fresh, lean	25.	14.4	...	1042	44
" smoked, lean	19.8	20.8	...	1209	38
Lamb, breast	19.1	23.6	...	1311	35
" chops, broiled	21.7	29.9	...	1614	28
" leg, roast	19.7	12.7	...	876	52
Liver, beef	20.4	4.5	1.7	583	78
" calf	19.	53.	...	562	81
Mutton, forequarter	15.6	30.9	...	1543	29
" hind "	16.7	28.1	...	1450	31
" leg	19.8	12.4	...	863	52
Pork, chops, medium	16.6	30.1	...	1530	30
" chuck ribs and shoulder	17.3	31.1	...	1585	29
" sausage	13.	44.2	1.1	2030	22
" tenderloin	18.9	13.	...	875	52
Sausage, bologna	18.7	17.6	.3	1061	43
" farmer	29.	42.	...	2240	20
Veal, breast	20.3	11.	...	817	56
" cutlet	20.3	7.7	...	683	66
" hind quarter	20.7	8.3	...	715	64
Poultry					
Chicken	21.5	2.5	...	493	92
Duck	22.3	2.3	...	824	56
Fowls	19.3	16.3	...	1017	45
Turkey	21.1	22.9	...	1320	34
Fish					
Black fish	18.7	1.3	...	393	116
Blue fish	19.4	1.2	...	402	113
Cod fish	16.5	.4	...	325	140
" " salt	25.4	.3	...	473	96
Flounder	14.2	.6	...	282	161
Haddock	17.2	.3	...	324	140
Halibut steak	18.6	5.2	...	550	83
Herring	19.5	7.1	...	644	70
" smoked	36.9	15.8	...	1315	35
Lobster	16.4	1.8	.4	379	120

EDIBLE NITROGENOUS NUTRIENTS AND THEIR FUEL VALUES.—*Continued.*

MEATS.	Protein N x 6.25 per cent.	Fat per cent.	Carbohydrate per cent.	Fuel value per pound Calories.	Grams to yield 100 Calories portion.
Fish—continued					
Mackerel	18.7	7.1	...	629	72
" salt	21.1	22.6	...	1305	35
Oyster	6.2	1.2	3.7	228	199
" canned	8.8	2.4	3.9	328	138
Salmon	22.	12.8	...	923	49
Shad	18.8	9.5	...	727	61
" roe	20.9	3.8	2.6	582	78
White fish	22.9	6.5	...	680	67
Sundries					
Calf's foot jelly	4.3	...	17.4	394	115
Cheese, American pale	28.8	35.9	.3	1990	23
" " red	29.6	38.3	...	2102	22
" Cheddar	27.7	36.8	4.1	2080	22
" Cottage	20.9	1.	4.3	499	91
" Full cream	25.9	33.7	2.4	1890	24
" Fromage de Brie	15.9	21.	1.4	1170	39
" Neuchatel	18.7	27.4	1.5	1484	31
" Pineapple	29.9	38.9	2.6	2180	21
" Roquefort	22.6	29.5	1.8	1645	28
" Swiss	27.6	34.9	1.3	1945	23
Cream	2.5	18.5	4.5	883	50
Eggs	13.4	10.5	...	672	68
Gelatin	91.4	.1	...	1660	27
Milk, condensed, sweetened	8.8	8.3	54.1	1480	31
" skimmed	3.4	.3	5.1	167	273
" whole	3.3	4.	5.	314	145

In turning, therefore, from the first, or the second diet just mentioned to a more generous one, one should be careful in regard to the introduction of nitrogenous elements into the diet, for it will frequently be seen that certain eruptions are again aggravated when a too full diet is resumed. I am pretty careful not to allow these patients to have animal nitrogenous food more than once or twice a day, which includes eggs, fish, shell fish,

etc. It is better to have one meal in the day wholly of vegetarian products, with butter; and the occasional substitution of fish only for the day, as with the Catholics, conduces to the preservation of health and avoidance of many skin affections.

The ill effects of much sweet compounds, in a light mixed diet has been already dwelt on, in earlier lectures, and the cautions then given in regard to pastry, etc., should also be remembered by those who have been subject to disorders of the skin. Tea, coffee, and cocoa also, if resumed in as great quantity as before may also act as a contributory cause in that class of troubles. In a word, the vegetarian dietary given earlier in this chapter is to be regarded as the basis to which small quantities of protein-bearing animal substances may be cautiously added; but in all respects the thought of *moderation* should come uppermost, if it is desired not to reproduce the condition of system which led up to the skin difficulty.

A good rule, which has sometimes worked admirably, is to have the patient take each meal from only a single plate; in this way one is not likely to take soup, desserts, etc. Another less feasible plan suggested by some one is that but one single article of food should be taken at each meal, irrespective of what that article is. Both of these rules put a pretty effective check on gourmandizing. A common direction of mine is that the meal shall finish with the knife and fork course.

In the light of what has been said in this and preceding chapters, it is not believed that either meat, fish, or eggs should be taken three times daily by those who have much tendency to eruptions on the skin; one meal at least should be made wholly on substances from the vegetable kingdom, as already mentioned. Nor, in my experience, is it desirable to eat eggs every morning for breakfast, but to have them alternated with bacon, or light fish, etc. Mention has repeatedly been made of coffee, and care should be exercised when this is returned to in a light mixed diet, after a more abstemious fare. Also too free indulgence in acid fruits must be guarded against.

As remarked in earlier chapters, the dietary management of diseases of the skin is yet in a very early stage of development, and relatively little definite can be found in the text books or in current literature in regard to the subject. There is certainly need of much careful observation and record, as well as laboratory studies in regard to the effect of the various possible articles of diet, or combinations of articles, upon the skin.

We recalled at the beginning of the lectures that in certain persons at all times, and in other individuals at certain times, particular articles of food called forth one or another eruption on the skin, as is universally granted. What the particular conditions are which render one susceptible to the ill effect of perhaps very moderate

dietary errors at one time and not at another, has not yet been at all fully determined, nor why some individuals can indulge without harm in many articles which act most prejudicially on others. It is probable, however, that many of the cutaneous reactions, manifesting themselves in the various recognized forms of eruption, represent anaphylactic phenomena.

The art and science of medicine in all its branches is largely founded on experience, moulded by knowledge and judgment, with such confirmation as is possible by laboratory and other exact means. In the present little book I have endeavored to present the results of long observation and record along certain lines, in one branch of medicine, and have sought to explain or confirm some of the results of clinical observation by chemical and physiological data. While there is still very much information and knowledge to be desired in regard to the subjects considered, it is believed that what has here been presented will be of much practical service in the management of many cases of certain diseases of the skin which are ordinarily most rebellious to treatment.

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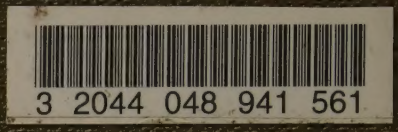
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